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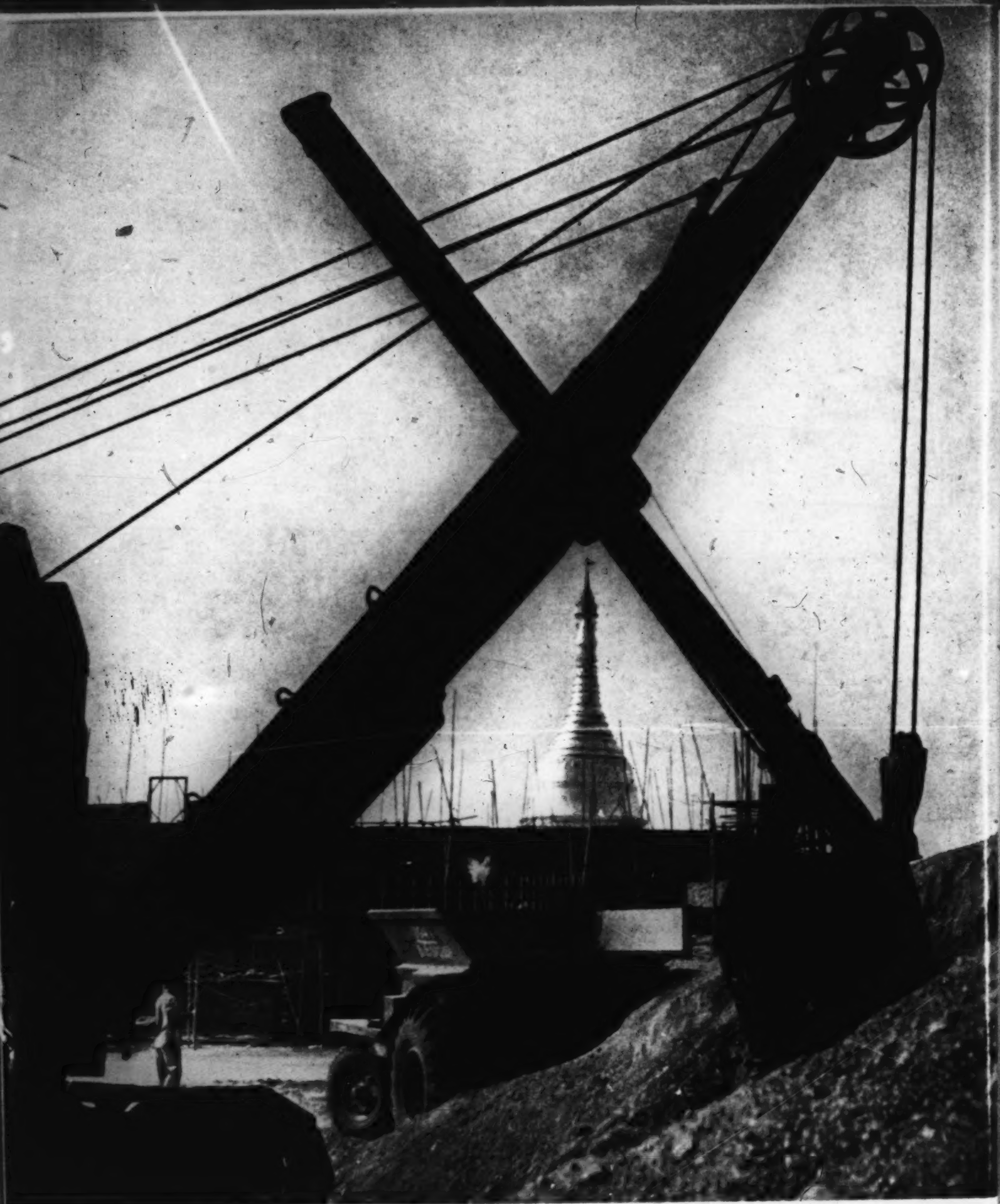
# PYIDAWTHA

## THE NEW BURMA



THE WORLD PEACE PAGODA, RANGOON

"We can blend successfully the religious and spiritual values of our heritage with the benefits of modern technology"

*Frontispiece*

# PYIDAWTHA

## THE NEW BURMA

A Report from the Government
to the People of the Union of Burma
on our Long-term Programme
for Economic and Social Development

ECONOMIC AND SOCIAL BOARD
GOVERNMENT OF THE UNION OF BURMA

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# The Honourable Prime Minister's Message for "Pyidawtha—The New Burma"

PRIME MINISTER OF THE UNION OF BURMA

*Dated, the 9th September 1954.*

SEVEN years ago our future was bright with promise. Without bloodshed and destruction we had gained the right to rule ourselves and with it the right to fashion the kind of life we want for ourselves.

But within a few months of our existence as an independent nation, just as we were ready to devote ourselves to the tremendous task of making good what the war had destroyed, we were confronted with an armed rebellion. We had to lay down the plough for the gun and leave the field for the jungle to fight those who were threatening our new and precious right to begin a new life.

While the rebellion raged around us we drew up plans for making our people healthier, wealthier and happier and our country a pleasanter place to live in. For we never doubted our ability to win the struggle.

Much time, energy and money have been spent in designing these plans. We have been aided in our work by men, both from our own people and from other nations, who know much about these matters.

Already we have begun to transform these plans into reality. We appreciate in fullest measure the necessity for the people's understanding and cooperation to bring success to our bold venture. It is to achieve this end that this report is submitted to the people.

At this moment in our history we stand poised on the threshold of a new age of peace, prosperity and happiness. With its back broken the rebellion no longer offers a serious threat to our existence. The way is clear now for us to apply our energies increasingly to the tasks of peace.

This report describes the path we must follow to reach our common goal—to make our land deserve the name—*Pyidawtha—the New Burma*. To this work we must all pledge our hearts and hands.

Maung Nu

(U NU)
*Prime Minister*

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BURMA *can become one of the most prosperous nations of all Asia.*

*In this New Burma we can enjoy a high standard of living . . . health and security for our people . . . social justice for all.*

*We can remain faithful to our past, yet live consciously and gladly in the twentieth century.*

*We can be proudly independent, yet a willing partner in the community of nations.*

*We can blend successfully the religious and spiritual values of our heritage with the benefits of modern technology.*

*To the creation and perpetuation of this great New Burma, we bend our backs and commit our hearts.*

## A PROSPEROUS FUTURE CAN BE OURS BECAUSE

WE can more than adequately feed our own population. Unlike many of our neighbours, Burma is not overpopulated.

We have within our nation adequate fuel resources and great electric power potential—the prerequisites for industrial development.

We have known deposits of a variety of minerals—raw materials to feed industry and to benefit agriculture.

Our great rivers, with their tributaries and canal systems, constitute a natural transportation network over which goods and people can be moved cheaply between the main population centres.

We are leading producers of several commodities, notably rice and teak—which can be sold abroad to earn the money we need to buy the things we must import.

The people of Burma are resourceful and talented. In their native intelligence, their spiritual strength, and their faith in the future of our country, they possess the indispensable personal and human values that always underlie national greatness.

These are the elements of our future prosperity: fertile land, power, transportation, raw materials, and good human resources. Efficiently developed and wisely administered, they can provide the material basis for a new era in Burma.

Yet in large measure our assets today represent only *potential* wealth. In the past our resources were exploited not for Burmans but for foreigners. Much of what we had was destroyed in the war. More has been destroyed by the insurgent enemies of the New Burma.

Instead of the high standard of living that our resources make possible, we have today an abysmally low standard of existence. It is well known that living standards throughout Asia are sadly inferior to those of western Europe and especially the United States. Yet standards of living in Burma are low even when compared to most of our neighbours.

But we shall waste no energies in lamentations or bitterness over the past. Our heritage is proud and strong, but our true history lies ahead. And there is much to be done.

What is to be done for the next few years has been charted carefully. For more than two years the Government has been laying the groundwork for the economic and social development of the nation. An intensive study of Burma's resources—present and potential—has been carried out; and we have drawn up ambitious but practical plans for development in agriculture, mining, transportation, communication, power, industry, and finance, as well as in health, education, housing, and social services.

The most qualified experts from Burma and abroad have been engaged in these studies. Their reports and recommendations have been carefully studied by Government. With some changes and modifications to suit the conditions of the country, we have now adopted a great programme for economic and social development, including an impressive list of projects for completion in the near future. Some of them already are under way. Together with the policies and principles that will guide them, and a flexible time-table for their completion, these projects constitute the Development Programme for our Pyidawtha, the New Burma.

It is important that the people of Burma know about this programme and understand it. They must share its purposes, understand its requirements and, in the end, make it work. That is why this report has been written.

## OUR OBJECTIVE

THE New Burma sees no conflict between religious values and economic progress. Spiritual health and material well-being are not enemies: they are natural allies.

We do not seek improved agricultural techniques or modern factories as ends in themselves: we seek them as useful means towards a better life.

We shall describe in the rest of this report the material and technical steps that must be taken to build the New Burma. But do not forget that the objective of all these steps—separately and together—is a Burma in which our people are better clothed, better housed, in better health, with greater security and more leisure—and thus better able to enjoy and pursue the spiritual values that are and will remain our dearest possession.

## OUR PRIORITY TASK

IT is not necessary to tell the people of Burma that war and insurrection—quite apart from being a moral outrage—are destructive, wasteful, and costly. We have seen enough of that to need no reminder.

Yet it must be emphasized that until peace is fully restored throughout our land, we cannot push ahead with maximum speed in building our New Burma.

We cannot bring crops to market from lands that lie in areas held by insurgents.

We cannot complete our river and rail and road and air transportation systems into enemy territory.

We cannot construct a dam to provide us with power until the river banks are clear of bandits.

We cannot even explore some territories for minerals and other resources because they are not free for peaceful development.

And so, reluctantly, we have devoted much time and money and materials to our national defence against internal enemies. Reluctantly, because it is sad that we should have to fight against brother Burmans. Reluctantly, because this time and material and money that should rightly go to constructive use must be employed for destructive purposes.

There are many things that can be done to develop our nation even as the fighting continues, and these things are being done. But our soldiers must be paid, fed, clothed, housed, and armed. This effort now takes nearly one-third of our national budget. Every kyat and every hour devoted to garrison, to patrol, to guard, to arm, to kill, is a kyat and an hour stolen from our Development Programme.

So more in sadness than in anger—but with firm resolve—we shall spend and allocate and fight until peace dwells in the remotest corners and in the deepest jungles of our land.

This is our first—our priority task.

# THE DEVELOPMENT PROGRAMME FOR THE NEW BURMA

OUR plan for economic and social development already is sketched out for the next six years—until 1960. It calls for the simultaneous and coordinated development of our country in all major fields of economic and social activity:

AGRICULTURE
TRANSPORTATION
COMMUNICATIONS
FUEL
POWER
MINERALS
INDUSTRY
FINANCE
HEALTH
EDUCATION
HOUSING
SOCIAL SERVICES

## THE CHARACTER OF THE PROGRAMME

Several general points should be made at the start about the character of the Economic and Social Development Programme:

*First*, it is much more than a reconstruction programme to repair the damage of war and insurrection. Many of the economic facilities that were destroyed must, of course, be replaced, but that is only a minor aspect of the Development Programme as a whole. Our pre-war economy and the wealth it produced was inadequate for the times; it would be worse than inadequate now; and it would be totally unacceptable for the future. What we are setting out to do is to create a *new economic foundation for our new country*, an economy capable of dynamic growth for the indefinite future. To build that foundation we shall move through successive stages of economic development which must be described in quantitative terms—like rates of investments, levels of production, and so forth. But as we approach and reach our quantitative goals, important changes also will occur in the *character* of our economy. Agricultural production will be more diversified; industry will be expanded in relation to agriculture; transportation and communication will be improved; electric power will become more generally available; trade will increase both within the country and between our country and our neighbours.

And this will mean that more products, and more kinds of products, will be available to our people; that new kinds of job opportunities will open up; that educational and health standards will rise; that travel and communication will become easier; and that, in short, we shall leave behind us the era of exploitation and move into an era in which all Burmans will participate in a life that will be more varied, more prosperous, and more pleasant.

Some segments of our economy will be no stronger, or not much stronger, by 1960 than they were before the war. *But they will all be much stronger than they are today and, more important, will provide the foundation for continuous economic and social progress.*

*Second*, the Development Programme will evolve and change as time goes along. Your Government strongly believes that the future development and happiness of our nation depend to a large extent upon the careful planning of the short-range and long-range development and use of our resources. In many cases this will involve not only detailed planning, but step-by-step development of action programmes. At the same time, economic development is an enormously complex matter. Whether a certain development project, or a given economic policy, is valid and wise at any given moment depends upon many factors, some of which we control and others—such as political developments and price changes in other parts of the world—are beyond our control.

There is no final target for this programme—no point in the road at which we shall say, "We shall stop here, for we have arrived." The economy and the social fabric of the New Burma, for as far ahead as any man can see, will be a living, growing thing. And so our Development Programme, too, is conceived as a living, growing, changing set of blueprints and designs. *The planning in which we believe is flexible and adaptable*—never dogmatic, doctrinaire, or rigid.

*Third*, responsibility for the success of the Programme will fall broadly across many shoulders. Most of the things that we want to accomplish require the investment of money; so economic goals depend on an investment programme, which becomes a sort of master key to economic development. Different types of investment must be carefully calculated, prudently timed, and closely coordinated with each other; and much of it must be provided out of public funds.

This places major and initial responsibility on the Government. To provide over-all supervision and coordination of the programme we have set up two agencies. The Ministry of National Planning will draw up the annual segments of the programme; prepare the nation's annual economic budget; adapt the programme to changing conditions, and generally coordinate the planning activities of all governmental agencies. The Economic and Social Board, headed by the Prime Minister, will keep a close and continuing watch over the progress of the programme; take whatever steps are needed to overcome obstacles and to expedite action; and generally advise Government on all major problems and policies.

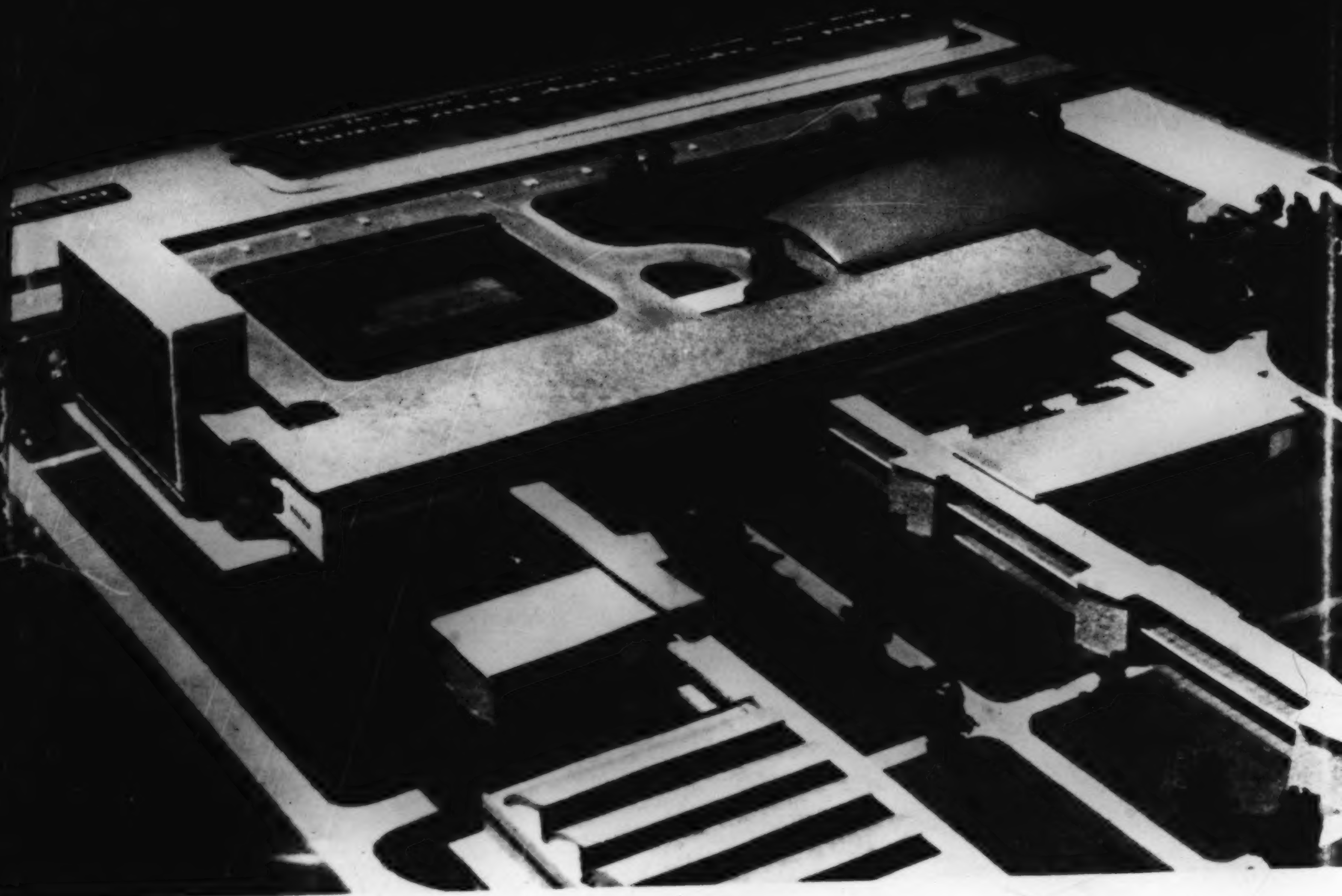
The specific parts of the government investment programme will be carried out both by such established agencies as the National Housing and Town and Country Development Board, the Ministry of Education, the Ministry of Transport and Communications, the Ministry of Agriculture, etc., and also by newly created agencies such as the Industrial Development Corporation, the Agricultural and Rural Development Corporation, and the Mineral Resources Development Corporation. Directly, and through subsidiary Boards and Corporations, these agencies will be responsible for building and operating new productive government enterprises, and for making sure that adequate transport, power, housing, schools, hospitals, and other community facilities are provided to keep pace with and support the growth of both public and private productive enterprise.

But this is only part of the job. If economic growth is to permeate the whole life of the nation, then planned government investment must be matched by all sorts of large and small investments by private individuals. In a very real sense, the farmer who buys a new plough or the farm village that builds a new pond or well; the riverman who buys a new boat, and the artisan who buys a new lathe, become participants in the Development Programme. So, of course, do private businessmen who build new factories or install new and better machines in existing factories. Thus individuals outside the Government collectively share a substantial part of the burden of responsibility for the success of the programme.

Then, too, both government and private investment in improved facilities will generate needs for specialized knowledge and skills in many kinds of activity, including government, that are now either non-existent or scarce in Burma. It is estimated that during the next six years the Development Programme will create some 32,000 new positions requiring special skills ranging

SOLDIERS ON THE MARCH, IN A SHOWER OF FLOWERS, MARCH 27, 1954
RESISTANCE DAY, RANGOON

"We shall fight until peace dwells in the remotest corners of the land"



MODEL OF THE NEW ENGINEERING COLLEGE, THE UNIVERSITY OF RANGOON from managers through construction workers to miscellaneous skilled tasks. The greatest requirement is for engineers and managers; but architects, physical scientists, lawyers, economists, statisticians, and others also will be needed.

By the end of 1953–54, about 700 new managerial and supervisory personnel will be needed, more than 700 additional professional personnel, more than 1,800 sub-professional, and over 10,000 skilled workers. The numbers needed far exceed the number of people who are now in training. This requires a drastic increase in our educational and training programme in this country, the sending of Burmans abroad for specialized training, and the use of non-Burman technicians, especially in the early stages, to speed the programme and speed the training of Burmans to replace them. Thus the students in our universities and technical schools, those who go abroad for specialized instruction, workers who learn new skills—administrators, supervisors, professionals—all these have an important responsibility for the success of the programme.

And beyond the need for bold planning on the part of the Government, beyond the need for large and efficiently managed investment programmes in both the public and private sectors of the economy, and beyond the need for sharp increases in the numbers of administrative, professional, and skilled workers, the success of the Development Programme also will depend upon the adoption of new methods on our existing farms, in our transport and communications systems, in our offices and factories and mines. In many cases, important economic improvements can be made simply by the practice of more efficient methods which do not require new machinery or expensive equipment.

For all these reasons, the Development Programme in its active stages will directly affect millions of Burmans—and for these reasons millions of Burmans must contribute directly to the programme if it is to succeed. Thus our Development Programme not only is *for* the people, it must be, in large measure, *by* the people as well.

## MEASURING ECONOMIC PROGRESS

The only convenient way to measure the strength of a nation's economy is by using a figure that economists call the Gross Domestic Product. This is obtained by adding up the value of all the goods produced and all the services rendered in the course of a year—that is, the value of food produced, articles manufactured, transportation provided, legal and medical services performed, and so forth. It's the total annual bill for every product and service that originates in a country and is sold, whether at home or abroad. Increases or decreases in the activity of the economy as a whole can thus be shown by comparing the value of the Gross Domestic Product of one year with the value of the Gross Domestic Product of prior or succeeding years. In order to make this comparison meaningful, it is, of course, necessary to compare the actual physical volume of output without reference to any changes that might have occurred from one year to another in the prices charged for products or services. Therefore it is useful to calculate the value of the Gross Domestic Product for different years as though there had been no price changes. In the statistics that follow, the prices prevailing in 1950–51 have been used throughout, so that the figures reflect actual changes in the volume of production.

Just before the war, in 1938–39, the Gross Domestic Product of Burma was K5,337 million. In 1950–51, the damage and disruption of war and insurrection had reduced this to K3,690 million, 30% under the pre-war level. During the next two years there was considerable recovery, so that by 1952–53 the Gross Domestic Product had risen to K4,244 million, still 20% under the pre-war level, but an increase of 15% over 1950–51. Preliminary figures suggest that the Gross Domestic Product for the current fiscal year, 1953–54, will again show a substantial increase in economic activity. Here are the figures for the Gross Domestic Product of Burma before the war and for the years since 1950–51:

| *Gross Domestic Product* | (1950–51 prices) |
|---|---|
| 1938–39 | K5,337 million |
| 1950–51 | K3,690 million |
| 1951–52 | K3,911 million |
| 1952–53 | K4,244 million |

Measuring the total production of the economy as a whole, however, does not tell us anything about the efficiency of that economy—whether it is producing enough to provide a good standard of living for its citizens. A high standard of living is possible only if there is a high average output of all productive members of the society. To measure efficiency, therefore, the Gross Domestic Product is divided by the number of people in the country to get the "*per capita* output"—the average value of goods and services produced by each member of the population during the course of a year.

In 1938–39, *per capita* output in Burma was valued at K326. By 1950–51 this had fallen to K199 and by 1952–53 had recovered to K223, still 32% less than before the war. It is important to note here that while the Gross Domestic Product in 1952–53 was one-fifth under pre-war, *per capita* production was nearly one-third less. That is because the population has grown by about 3 million in the interim. Here are the figures for *per capita* production in Burma for 1938–39 and the years since 1950–51.

Per Capita *Production* (1950–51 prices)

| | |
|---|---|
| 1938–39 | K326 |
| 1950–51 | K199 |
| 1951–52 | K209 |
| 1952–53 | K223 |

The total output of a national economy is used in several ways. Some of it is exported and the money received becomes available to buy things that must be imported. Another part is saved within the country and is invested in new enterprise or the expansion of old enterprise. But the largest part of the national output every year is purchased and consumed currently inside the country. Fluctuations in the total value of goods consumed in Burma in post-war years, compared to 1938–39, show much the same pattern as the figures for Gross Domestic Product. Here are the figures:

*Total Consumer Purchases* (1950–51 prices)

| | |
|---|---|
| 1938–39 | K3,382 million |
| 1950–51 | K2,668 million |
| 1951–52 | K2,672 million |
| 1952–53 | K2,841 million |

But to measure more accurately the living standards of the population as a whole, total consumption must be divided by the number of people to get the value of consumption per person. Here are those figures:

| Per Capita *Consumption* (1950–51 prices) | |
|---|---|
| 1938–39 | K206 |
| 1950–51 | K144 |
| 1951–52 | K143 |
| 1952–53 | K150 |

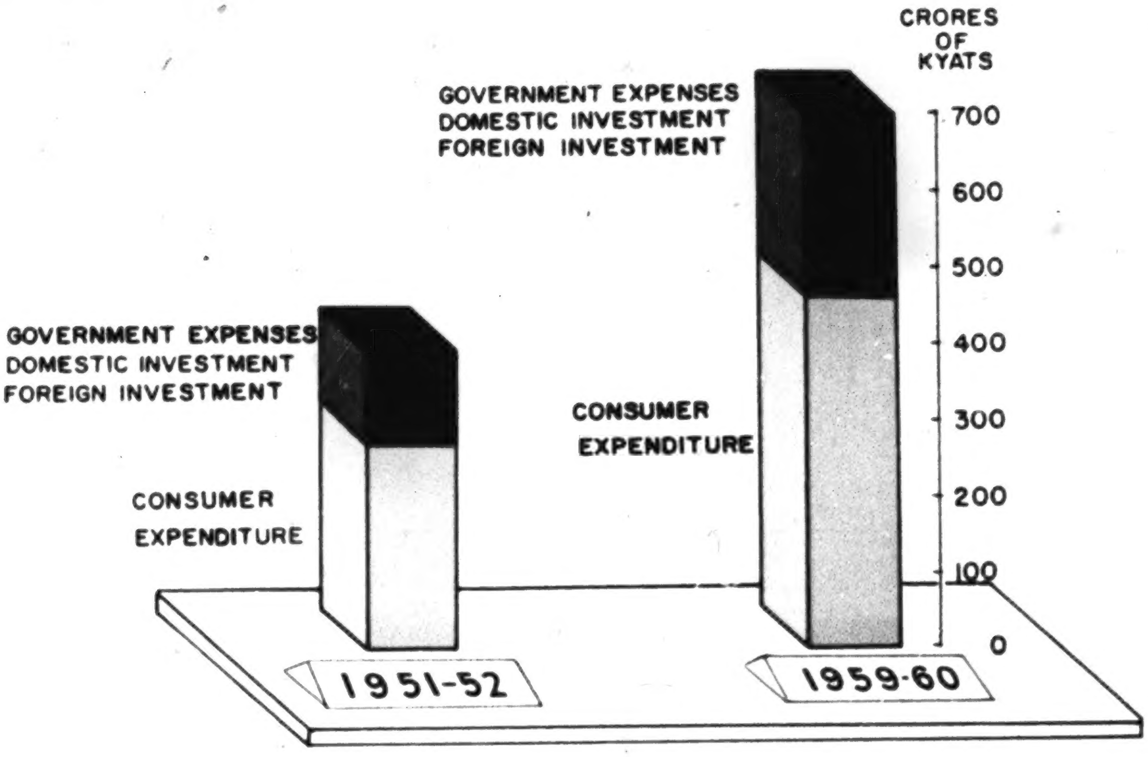
Thus, while *total* consumption in 1952–53 was 84% of pre-war, *per capita* consumption was only 73% of pre-war—another reflection of the increase in population and another illustration of the fact that, with a growing population, economic activity must expand commensurately just to maintain the *same* standard of living. In other words, unless economic expansion keeps pace with the growth of population, our living standards not only will not increase, but will *decline*.

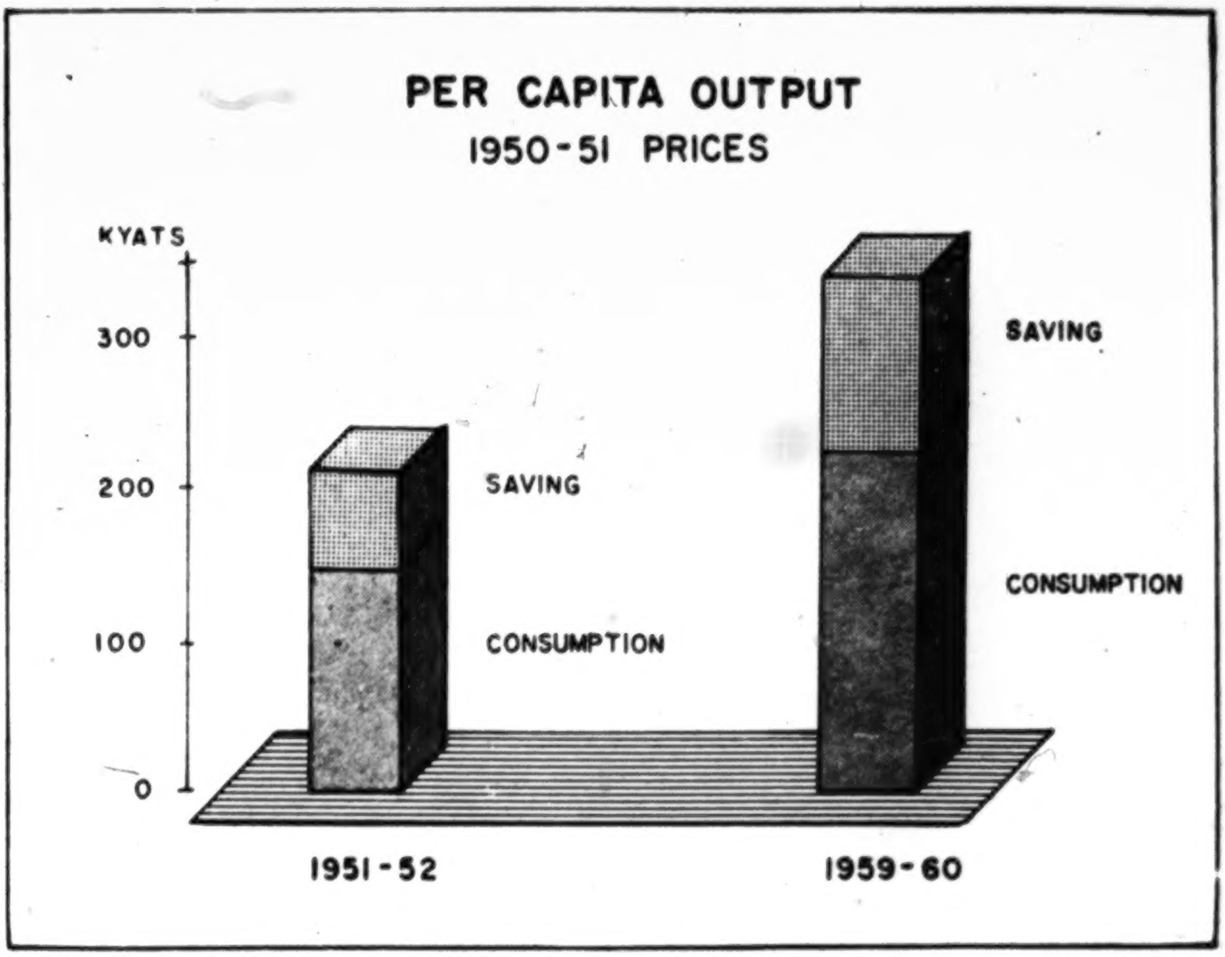
## THE GOAL OF THE PROGRAMME

The over-all goal that we have established for the Economic Development Programme is to reach a level of economic activity that will raise the Gross Domestic Product of Burma to K7,000 million by 1959–60, which is about two-thirds above the 1952–53 figure and about one-third over pre-war. That would mean a *per capita* production of K340, an increase of 50% over 1952–53 and slightly above pre-war. Again, the increase in *per capita* production is much less than the increase in gross production, because of the anticipated increase in population.

At the level of economic activity projected for 1959–60, it is estimated that *total consumer purchases* in Burma would reach K4,663 million by 1959–60, an increase of 64% over 1952–53 and almost 38% over pre-war. It will be seen that consumption is expected to increase more rapidly than production. This is because money earned from economic activity in Burma will no longer be sent out of the country in significant sums in the form of profits to foreign owners, and Burmans therefore will be able to purchase and consume in this

## GROSS DOMESTIC PRODUCT GOALS
## 1950-51 PRICES





country a larger share of our production and at the same time save larger amounts for investment than before the war.

If we reach our production goals in 1959–60, *per capita* consumption, by a much larger population, will be nearly 10% above pre-war and almost 50% above the present level. Actually, the standards of living will increase more than is indicated by those figures, because of the new social services which are being provided free by the Government. Furthermore, it is the policy of the Government to design the tax system and other economic measures in such a way that the standard of living of very low-income families will increase at a higher-than-average rate.

To recapitulate the statistics that have just been discussed, overleaf is a table showing the combined figures:

(In 1950–51 Prices)

| | 1938–39 | 1950–51 | 1951–52 | 1952–53 | *Goal for 1959–60* | *Per cent. Increase Over Pre-war* |
|---|---|---|---|---|---|---|
| Gross Domestic Production (in millions) | K5,337 | K3,690 | K3,911 | K4,244 | K7,000 | 31% |
| *Per capita* Production | K326 | K199 | K209 | K223 | K340 | 4% |
| National Consumption (in millions) | K3,382 | K2,668 | K2,672 | K2,841 | K4,663 | 38% |
| *Per capita* Consumption | K206 | K144 | K143 | K150 | K224 | 8·7% |

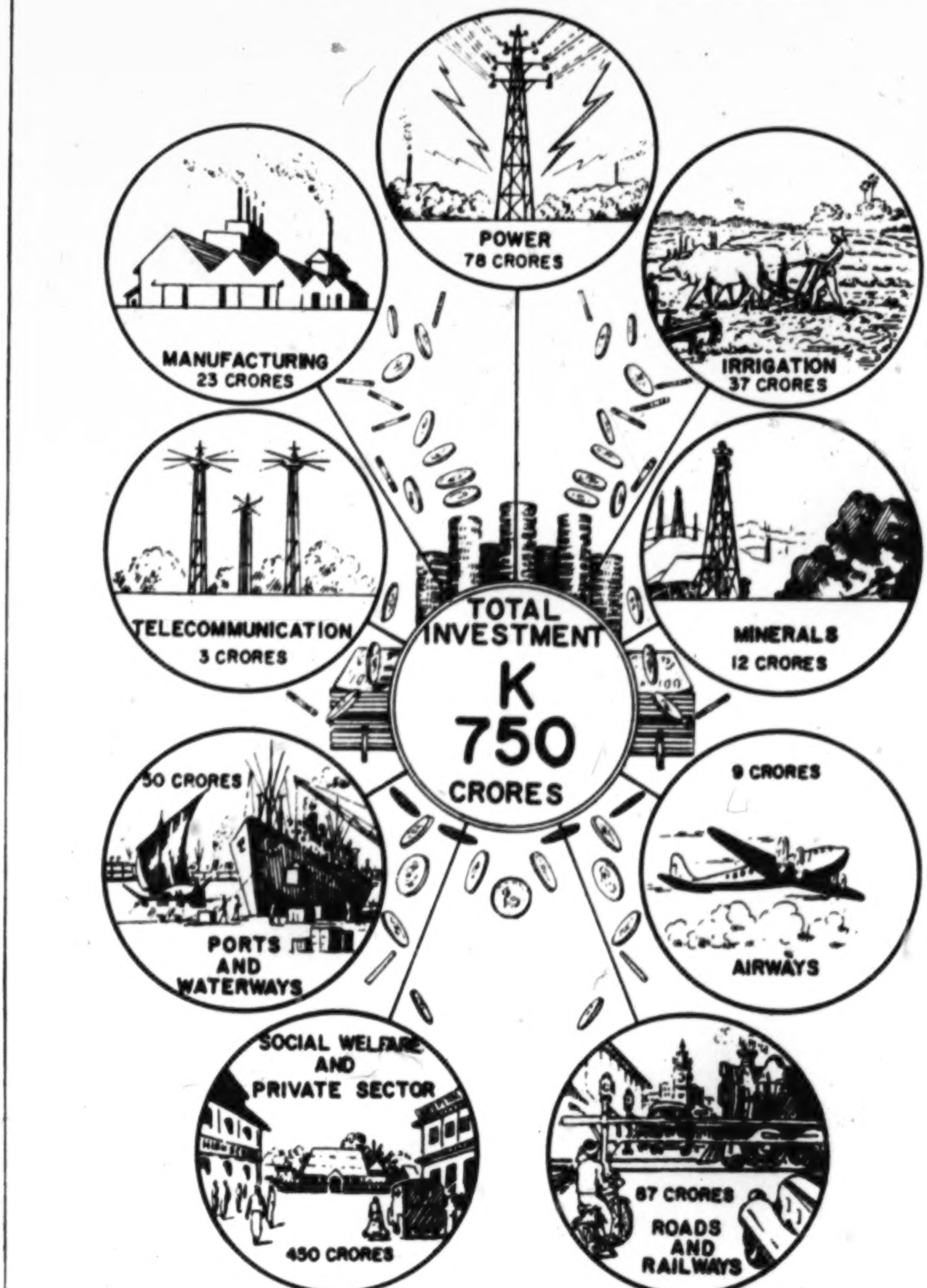
There are two important things to be borne in mind in connection with the size of our Development Programme as revealed by these statistics. Both have been mentioned already, but they merit repetition. The first is that we must increase production very rapidly just to bring about a slight increase in living standards because of the rising population. And the second is that while both *per capita* production and *per capita* consumption by 1960 will not be very much above pre-war, they will be much higher than the present level and will establish the economic base from which further progress can be made. Increases in both production and consumption, and thus in living standards, can be much more rapid after the necessary foundation has been laid.

## THE COST OF THE PROGRAMME

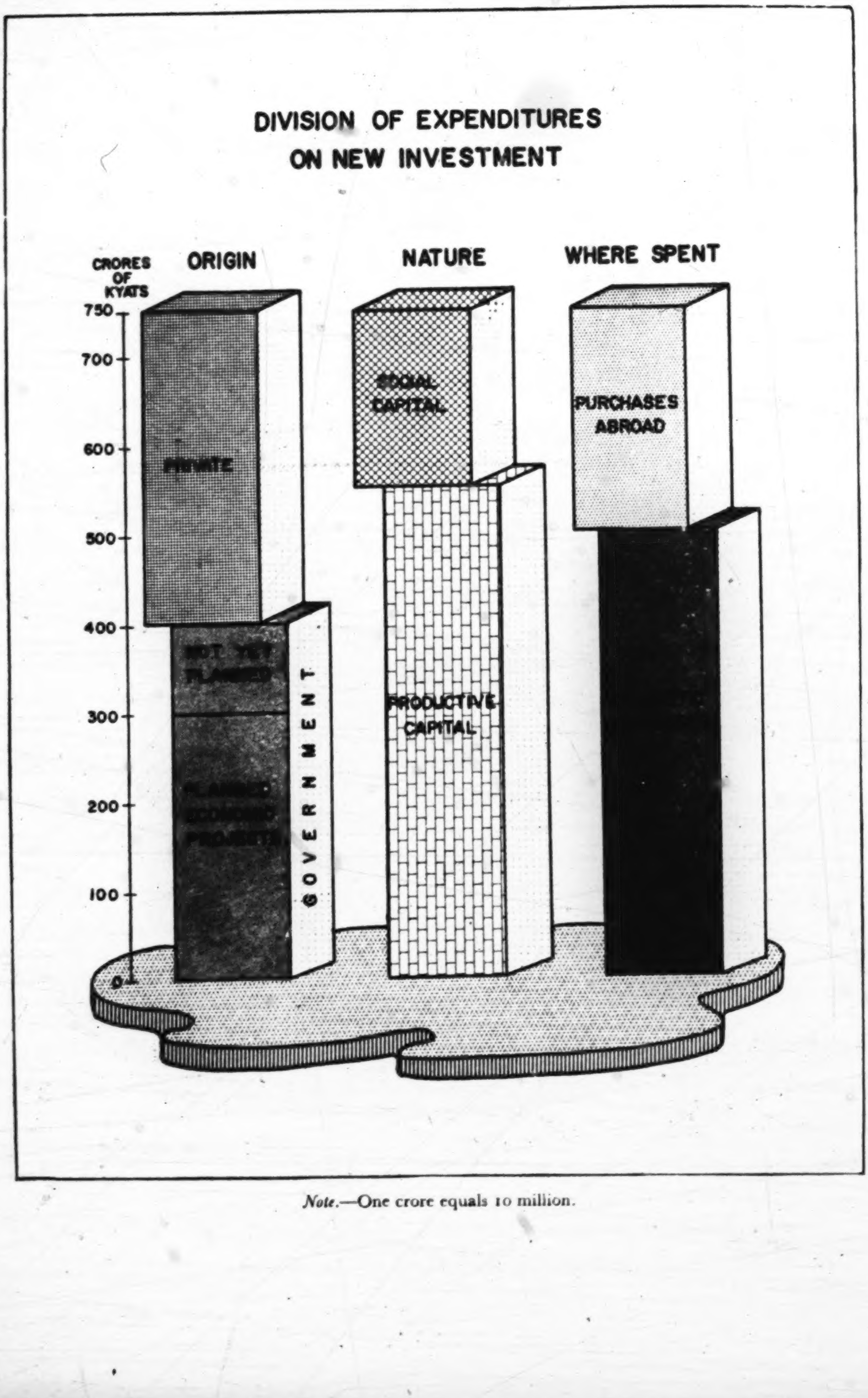
In order to bring about an increase in our Gross Domestic Product to K7,000 million by 1960, it is estimated that K7,500 million will have to have been invested in our nation between January 1952 and September 1959. A large part of this will be provided by a multitude of personal and privately financed activities that cannot be planned on a national basis—everything from soil improvement and small tools acquired on the farms to expansion in cottage industries, the operation of buses, trucks, and private boats, the wholesale and retail trade, and even hotels, restaurants, and barber shops.

Another important part of total investment will be in the form of government expenditures on social facilities such as housing, public buildings,

## MAJOR FIELDS OF ECONOMIC DEVELOPMENT


POWER
78 CRORES
MANUFACTURING
23 CRORES
IRRIGATION
37 CRORES
TELECOMMUNICATION
3 CRORES
MINERALS
12 CRORES
TOTAL
INVESTMENT
K
750
CRORES
50 CRORES
PORTS
AND
WATERWAYS
9 CRORES
AIRWAYS
SOCIAL WELFARE
AND
PRIVATE SECTOR
450 CRORES
87 CRORES
ROADS
AND
RAILWAYS

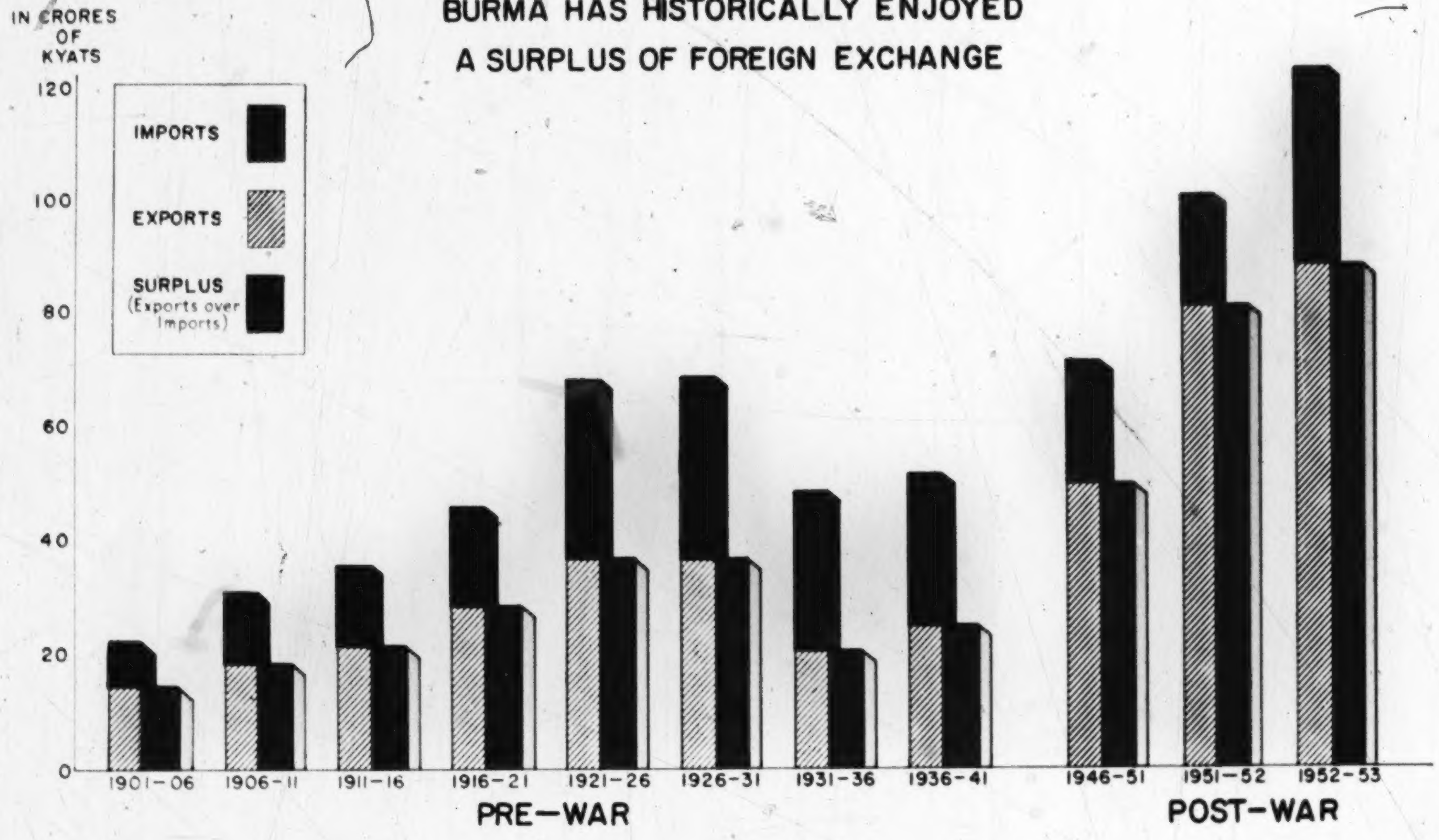
*Note.*—One crore equals 10 million.



*Note.*—One crore equals 10 million.

# INTERNATIONAL TRADE

**BURMA HAS HISTORICALLY ENJOYED A SURPLUS OF FOREIGN EXCHANGE**



schools, hospitals, and community services like water supply, sanitation, fire protection, and health and medical services.

But the type of investment that principally concerns us in this report is *government investment in economic facilities*. In order to reach a Gross Domestic Product of K7,000 million by 1960, the Government has planned economic projects under the Development Programme which will cost an estimated K3,000 million. About two-thirds of this amount will be spent in Burma, and one-third abroad for the purchase of equipment and materials that must be imported.

It is now believed that the Government will have sufficient capital available to carry out this programme with certain changes in the present tax system and without inflation. Also, Burma has always sold more goods abroad than it has imported, and we have now accumulated substantial reserves of foreign currency. Consequently, we shall be able to finance a large part of the purchase abroad of the machinery and equipment which we will need to build the New Burma.

But in connection with the size of the programme, one question that is certain to be asked is this: how was the magnitude of the programme determined? Why not a larger one? Or a smaller one? The answer is that after careful and protracted study it has been concluded by competent experts that this is the maximum development programme that we can reasonably expect to carry out successfully over the next six years, with due regard to the availability of men, money, and materials, and in such a way that all segments of the economy and all sections of the country will share appropriately in our development. It is an ambitious programme but not an impossible one; we shall have to work very hard to reach these goals, but with great good fortune we might even exceed them.

# THE DEVELOPMENT PROGRAMME AS PART OF THE NATIONAL ECONOMY

THE economic segments of our Development Programme must, of course, be carried out within the framework of the national economy of Burma as a whole, including our international economic relations. Since it is our specific intention to organize the whole economy in the interests of maximum progress, some stresses and strains are sure to develop within the economy; and various parts of our Development Programme inevitably will conflict, to some extent, with others. This means that the proper coordination of planning, of policy, and of the operation of all major aspects of the national economic life is of critical importance to the success of the programme.

Voluminous studies and detailed plans have been prepared to assist the Ministry of National Planning and other government agencies in this tremendous undertaking. The pamphlet you are reading is based on those studies and plans, but it is of course not possible to discuss fully here all the manifold aspects of the national economy that must be taken into account. We therefore mention only very briefly below some of the major policies and principles which will guide our efforts to fit the Development Programme into the national economy as a whole.

**International Trade.** As our Development Programme progresses, we shall produce within Burma many products that are now available only from abroad. But a high level of international trade is both necessary and desirable for Burma. We need foreign markets for our rice and timber and minerals. At the same time, we need foreign exchange to buy from abroad the machinery and equipment and materials to carry out the Development Programme; and we shall always need products that do not exist at all in our country or which can be produced more cheaply elsewhere.

Burma can remain economically *independent and self-supporting*, but can never become *economically self-sufficient*. Neither can any other country in the world. Therefore we shall strive to export products of good quality at competitive prices; we shall establish within Burma only those industries that can produce economically and compete successfully with foreign producers for markets in Burma; and we shall levy import duties against foreign products only as a means of government revenue or as interim measures to provide temporary protection for new Burma industries.

**Internal Fiscal Policy.** We must raise enough revenues through taxes and borrowing to finance the rapid development of our country. Yet at the same time our people must have adequate purchasing power, our banking system must provide the credit needs of our farmers and business men, and we must not discourage private savings and private investment in productive enterprise. We must, at all costs, avoid the corrosive and demoralizing effects of an inflation in the cost of living because that would wipe out real gains in our living standards. Therefore, our internal fiscal and monetary system must be broadly conceived and carefully disciplined to serve the needs of the Development Programme and the national economy as a whole.

**Economic *versus* Social Investment.** Every physical facility in a country —a farm, a factory, a locomotive, a school, a hospital—is part of the national wealth. When any new facility is created it adds to the nation's wealth, and the growth of such assets is called "capital formation."

Certain types of facilities, like factories and farms, directly produce physical goods that are sold and consumed. Others, like schools and hospitals, which are called "social capital," do not produce physical goods, although they have indirect but important effects on production.

Both kinds of facilities—those producing physical goods and economic services, and those producing social services—are necessary and desirable. A healthy population not only needs medical care and schooling, but food and clothing and many other consumer goods essential to decent living. We are carrying out both kinds of expansion simultaneously. But the two programmes, more often than not, compete for the same limited resources—money, or steel, or electrical equipment, or trained technicians, for example. Therefore our programme for expansion of social facilities must be coordinated with, and balanced against, our programme for expansion of productive facilities. This means that difficult choices sometimes must be made: expenditure of money or allocation of materials to an economic project now may bring greater social benefits in the years to come than the expenditure of the same assets on a social project now. In making these choices and determining priorities, your Government will be guided by consideration of the greater good of the greater number in the New Burma.

**Coordination within the Economic Programme.** Coordinated and balanced with the expansion of social capital, the major segments of the Economic Development Programme must be coordinated and balanced with each other. It would not make much sense to build a factory without the power to run it and the transport to bring in raw materials and carry away its manufactured products—no more than to provide power and transport without manufacturing facilities to use and consume them. If this seems childishly elementary, suffice it to say that such things have been known to happen.

**Coordination with Other Programmes.** Finally, investment in productive facilities must be coordinated with other essential elements of the broad programmes—the training of managers and skilled and semi-skilled workers; the development of producers' and distributors' and consumers' co-operatives; the extension of banking and credit facilities together with public understanding of the function and use of credit; the expansion of agricultural extension services; improvements in research, laboratory, and library facilities; and last, but not least, an improvement in the training and quality of government leaders and civil servants.

## IN SUMMARY

HERE is a summary of the purpose and general character of the Economic and Social Development Programme and a glimpse at the goals for the major parts of that programme:

### THE PURPOSE

To bring about by 1960 a substantial increase over present living standards and to build the foundations for a continuous improvement in economic and social conditions for all Burmans.

### THE ECONOMIC GOAL

To raise the Gross Domestic Product of Burma to K7,000 million by 1960 —an increase of 63% over 1952–53.

### THE PLAN

To carry out a large and comprehensive programme of planned government productive investment, totalling some K3,000 million, carefully coordinated and balanced with a parallel expansion of social facilities and services, with a rapid increase in education and training, and with expansion and improvement in the private sectors of the economy.

### THE SCOPE

To provide coordinated development in all major areas of economic activity, with the following goals tentatively established for 1960:

**In Agriculture.** An increase in total production of 77% over 1951–52 levels, to be brought about by increased acreage, better land utilization, and the completion of four great irrigation schemes.

**In Power.** Development of four major power-generating projects to provide power for industry, irrigation, agriculture, and household use.

**In Transport.** The rebuilding and expansion of road, rail, river, and air transport to provide an efficient, modern, and inexpensive transport network throughout the nation to serve the expanding needs of the economy.

**In Minerals.** The launching of a systematic exploration and development programme of the rich mineral deposits of Burma, together with the restoration and possible expansion of petroleum, tin, lead, and zinc production. New development will be highlighted by the inauguration of a large coal-mining project.

**In Industry.** Completion of the first stage of a master plan for industrial development based on the growth of industrial centres at Rangoon, Akyab and Myingyan, and involving a total of 45 tentatively scheduled projects.

**In Forestry, Fishing, and Communications.** Programmes are being developed in these fields to support, extend, and service the rest of the Development Programme.

## THE IMPLICATIONS FOR BURMA

The destiny of Burma, secure in our own hands at last, lies in the successful fusion of twentieth-century technology with the ancient and permanent spiritual values of our people. To speed this New Burma that can be ours, we have mapped out a great Economic and Social Development Programme that soon will become the dominant influence in the whole economic life of the nation. It will affect, and be affected by, millions of citizens. Farmers, workers, professional people, civil servants, and others will learn new concepts, practices, skills, and techniques. So it is not a demagogic platitude, but a statement of fact, to say that the success or failure of the plan for a New Burma will be decided by you, the people of Burma.

# THE MAJOR SEGMENTS OF THE ECONOMIC DEVELOPMENT PROGRAMME

# HIGHLIGHTS OF THE AGRICULTURAL PROGRAMME

BETWEEN now and 1960 we aim to raise agricultural production by 77% over the level of 1951–52. And in so doing we shall lay the foundation for a long-term revolution in agricultural methods in Burma. During the next few years the programme will involve these things:

Return of all previously cultivated land to active production and the addition of some land not previously cultivated.

An increase in per acre yield through improved farm practices, particularly the use of better seeds and chemical fertilizers.

Large scale irrigation projects.

Introduction of new crops and new plant varieties.

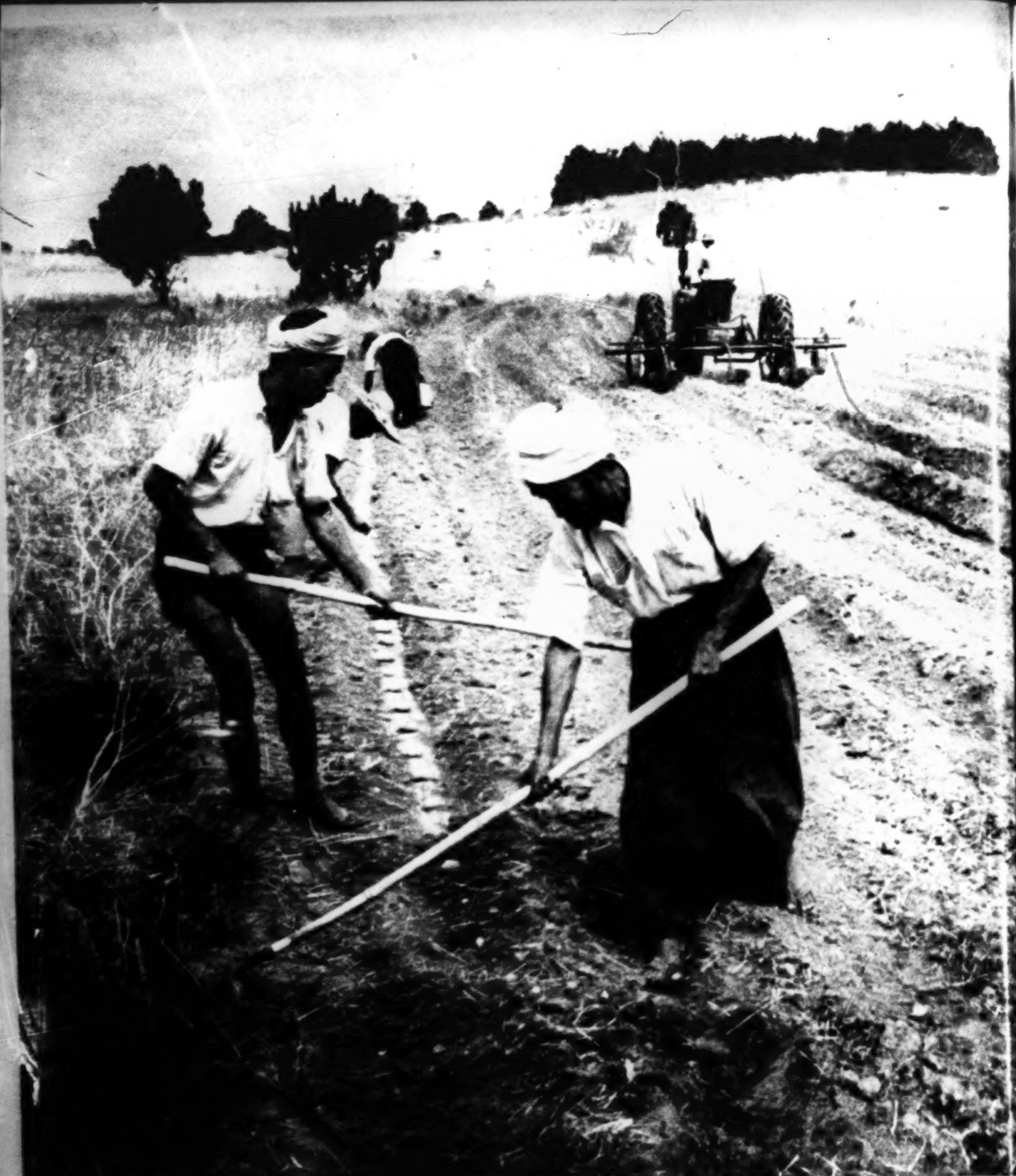
Improved marketing and storage facilities.

Extension of farm facilities.

Expansion of government research into agricultural problems.

Expansion of educational and advisory services.

SEED SELECTION AT THE HMAWBI EXPERIMENTAL FARM



THE OLD AND THE NEW IN AGRICULTURE

# AGRICULTURE

## THE BACKGROUND

BURMA is favoured with large areas of flat land, a moderately fertile soil, ample water resources, and a suitable climate for agricultural production.

Among Asian countries we are unique in having a small population in relation to potentially cultivable land. Thus we can produce from our own soil enough food to provide a decent diet for our people without undue reliance on imports. Compared with other nations, here is the amount of cultivable land in relation to the population:

Burma (1951): 2·0 acres per person
India (1951): 1·1 acres per person
Pakistan (1949): 1·0 acres per person
Ceylon (1951): 0·8 acres per person
Japan (1951): 0·2 acres per person

Or, expressed differently, every two acres are required to support only one Burman, but they must provide a living for about two Indians or Pakistanis, two and one-half Sinhalese, and more than ten Japanese.

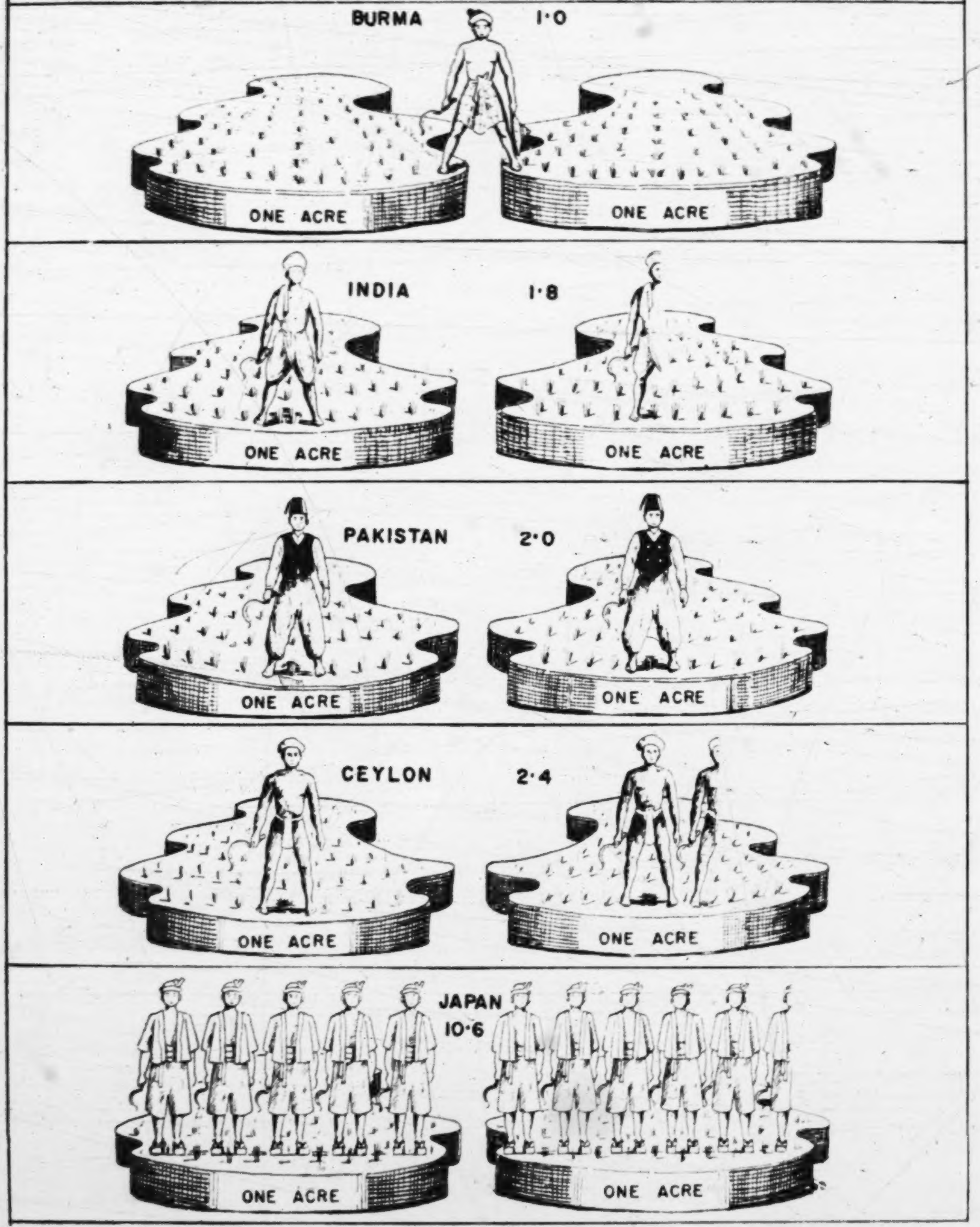
Agriculture gives employment to two of every three workers in Burma. It accounts for nearly 40% of our national income. And agricultural exports provide by far the greatest amount of the nation's earnings of foreign exchange.

In short, the Burmese economy is predominantly agricultural, and it will remain predominantly agricultural for the foreseeable future.

Burma's Development Programme therefore lays heavy stress on improvements in agriculture. The need for such improvements is clear when the following facts are considered:

> While only 60% of the country has been surveyed for soil classification, it is known that 24% at least of the total land surface is cultivable. Of

# BURMA HAS AMPLE LAND RESOURCES FOR HER PEOPLE

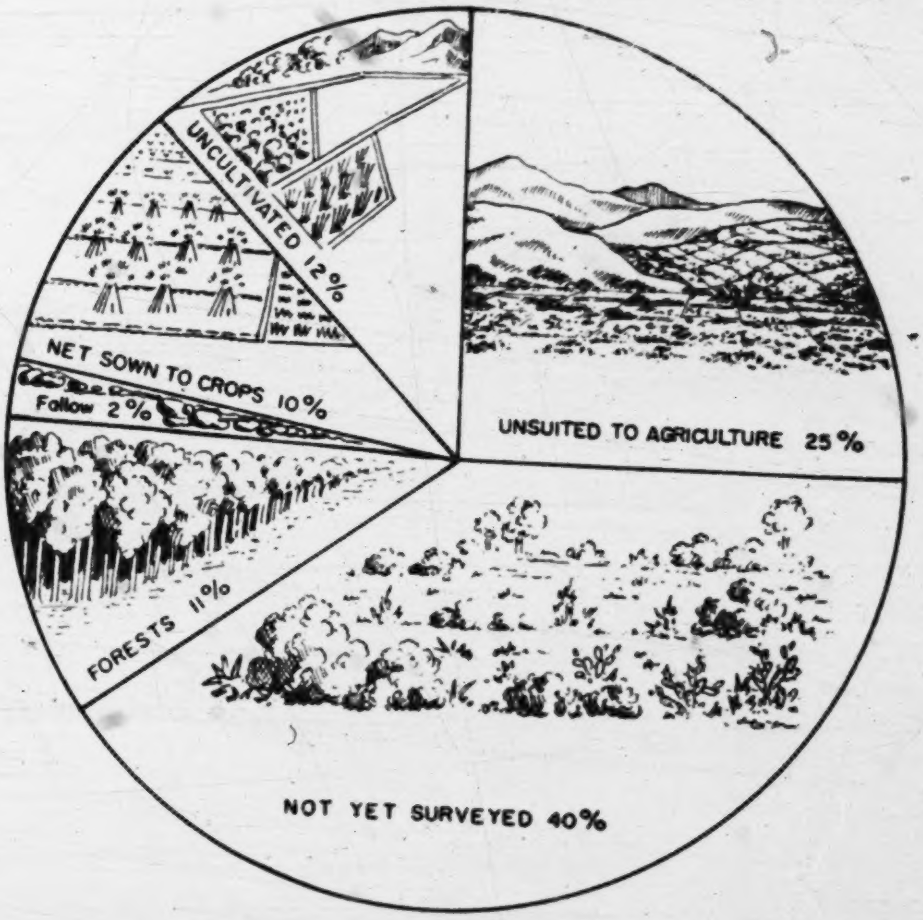


this, only 43% is now sown to crops, 9% lies fallow, and 48% is uncultivated. It is apparent at once that the amount of land now under cultivation could be greatly expanded. Large tracts of land topographically suited for agriculture have never been cultivated.

## USE OF LAND RESOURCES

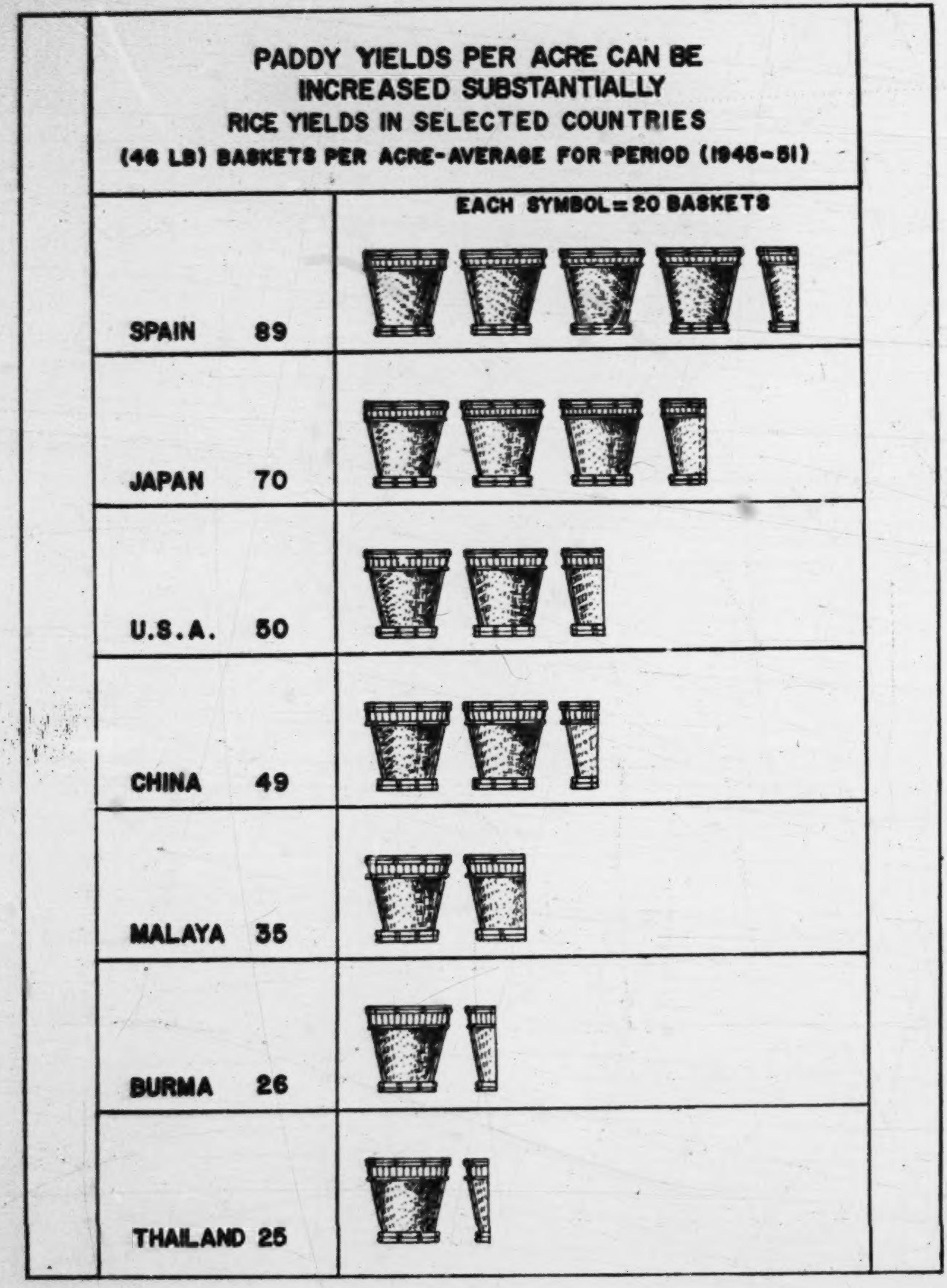
### 1937–1941

### THE AREA UNDER CULTIVATION CAN BE VASTLY EXPANDED



About 2·5 million acres of formerly cultivated land are now out of production, largely due to insurgency, and are degenerating into swamp and brush.

Two-thirds of the cultivated land is planted with a single crop—rice. While rice production and export are crucial to the maintenance and development



PADDY YIELDS PER ACRE CAN BE INCREASED SUBSTANTIALLY

RICE YIELDS IN SELECTED COUNTRIES

(46 LB) BASKETS PER ACRE-AVERAGE FOR PERIOD (1946-51)

of the national economy, we plan also to increase the production of other crops that can be grown successfully in Burma. This will both reduce our agricultural import requirements and lessen our present undesirable reliance on a single crop.

Crop yields per acre are low in comparison with yields in other countries with similar growing conditions.

The population is growing at the rate of about 13% per decade. By 1960 it is estimated that there will be 1,600,000 more mouths to feed in Burma.

The rapid development of other segments of the economy—in mining, industry, transportation, etc.—will require more workers. More people will be needed in the professions, in commerce, in technical positions. Although there is now some unemployment and under-employment in our cities, most of these new workers must come from the agricultural population and from young people who ordinarily would have become farmers.

Current production is still about one-fifth below pre-war.

There is not one single modern farm in Burma today. An ambitious programme of agricultural improvement would be called for urgently simply to provide a higher real income for the majority of the population that cultivates the land and a better diet for all our people. But as living standards rise generally, and as technological progress is accelerated, we shall have to look for increased production of more diversified crops from a smaller farm population. Modernization and rising living standards in almost all other countries have resulted in a decreasing proportion of the population in agriculture, and the pattern in Burma probably will be the same. From this it will be seen that far-reaching changes must be made in agricultural practices.

## THE OBJECTIVES OF THE PROGRAMME

The objectives of the agricultural programme can be stated quite simply. They are:

*To increase the total level* of agricultural production.

*To diversify* agricultural production.

*To raise the export* of agricultural products.

*To increase returns to farmers* from the sale of their products.

*To ensure to farmers* a more stable and equitable share of the national income.

## THE PROGRAMME

To accomplish the objectives of the programme will require whole series of activities. There is no single magic solution. All of the activities must be carefully coordinated with each other. Development in one line of agricultural activity often is futile without parallel development in other, related, lines of activity. And many of the steps that are planned cannot succeed without the active, personal collaboration of millions of farmers and farm workers. Here are the major parts of the agricultural segment of Burma's Programme for Economic and Social Development of our nation:

**I. Reform of the Land Tenure System.** This is being carried out through four major Acts of the Burma Parliament.

*The Land Nationalization Act* provides for the resumption by the State of land in excess of specified limits and distribution of the land to cultivators and labourers to operate as State tenants. The programme under the Land Nationalization Act provides for the growth of cooperative societies and looks forward to the development of collective or cooperative farming.

*The Land Alienation Act* prohibits transfers of agricultural land to non-agriculturists.

*The Rent Control Act* limits gross rents to reasonable levels.

*The Disposal of Tenancies Act* guarantees the tenure of a tenant so long as he pays standard rents, has not defaulted on agricultural loans, and cultivates the land.

These laws lay the groundwork for reforming the social structure of our agricultural system.

**II. Intensification of Cultivation.** Although Burma's farmers work hard and skilfully with what facilities they have, our methods and equipment are primitive.

In order to produce more from the same land with less work, our farmers must learn and adopt a variety of improved practices, from planting and harvesting to the storage and marketing of their crops.

The most extensive improvement for most crops would come from the use of chemical fertilizers which, according to scientific tests in Burma, will increase yields by 30%. That is to say, that by using fertilizer on the land he now works, a farmer will gain the same benefits he would receive from expanding his land by nearly one-third.

But the progressive improvement that follows the introduction of better farming practices can be illustrated by the fact that under present cultivation methods paddy production is about 1,300 pounds per acre; that the use of improved seed would increase production to more than 1,430 pounds; and that if fertilizer is added as well, production would rise to 1,820–1,860 pounds per acre. The use of mechanical equipment for ploughing and harvesting, the production of two crops per year, rotation of crops, the efficient use of green manure, and many other improvements which are being developed by the Agriculture Department can raise productivity even further.

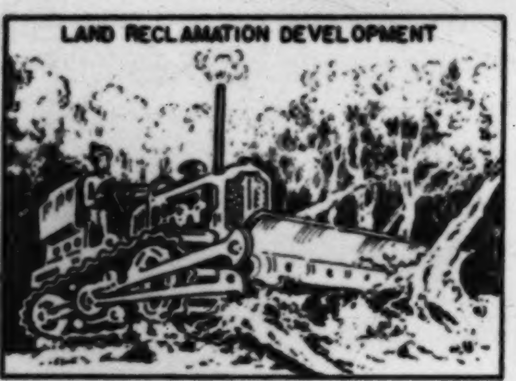
**III. Restoration of Pre-war Acreage.** This depends upon regaining control over the areas lost to the insurgents. As additional areas have been cleared, cultivators have restored the land and the Government has helped them with subsidies. It will continue to do so until all the lost areas are restored to productive use.

**IV. Irrigation.** Water resources for the agricultural life of Burma are abundant but mostly wasted because of the very heavy rainfall during the monsoon seasons, much of which runs off without benefit to the soil or is inadequately stored. The loss in land utilization during the dry season by leaving land fallow, uncultivated, or abandoned is an important factor in the economy of the country. This loss can be eliminated by providing up-stream storage in large reservoirs from which water could be released to provide adequate irrigation throughout the year. An analysis of 10 Districts in the Dry Zone shows a total of 1,698,200 acres of irrigated land, 6,483,000 acres of cultivated land that is not irrigated, and 2,831,000 acres suitable for agriculture but not cultivated. These figures suggest the potential improvements that large scale irrigation works can bring to the Dry Zone. As for the lower delta lands, it is evident that proper storage and year-round use of potentially available water supplies would add greatly to the welfare of the area through increased production, a wider variety of crops to improve our diet, and a fuller employment of labour during the slack periods now caused by a one-crop economy.

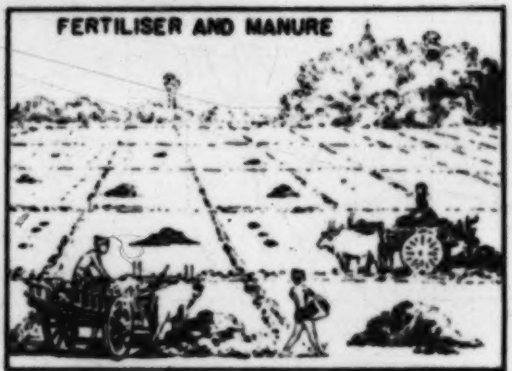
Irrigation projects providing up-steam storage of water in large reservoirs

# AGRICULTURAL PRODUCTION WILL BE INCREASED BY THESE METHODS

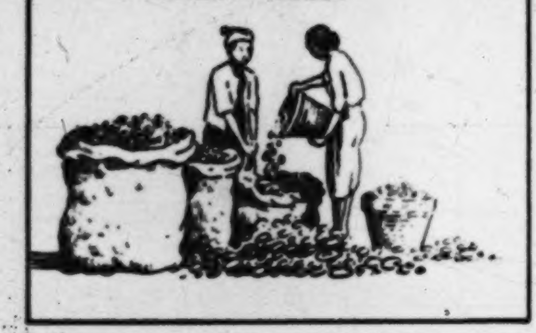
LAND RECLAMATION DEVELOPMENT



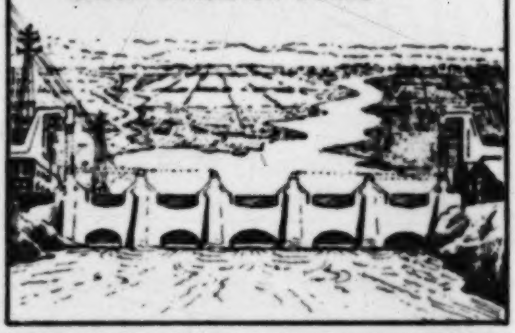
FERTILISER AND MANURE



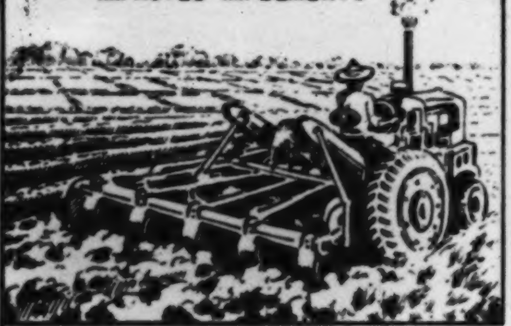
QUALITY SEEDS



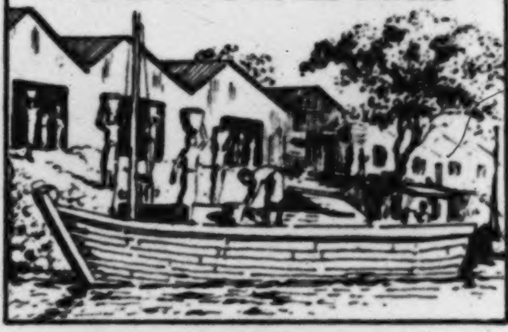
MAJOR IRRIGATION WORKS



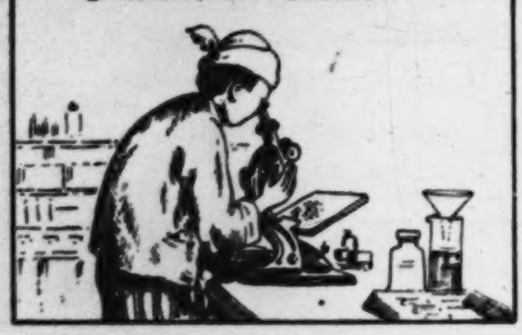
IMPROVED IMPLEMENTS



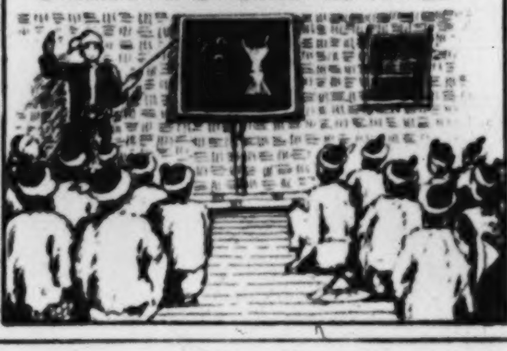
IMPROVED MARKETING AND STORAGE



EXPANSION OF RESEARCH



EXPANSION OF EXTENSION ACTIVITIES



would eliminate crop failures due to lack of water, which now amount to 6% of the acreage sown; open up the possibility of raising two crops each year, which would have the same effect as acreage expansion; and bring new land into cultivation.

Our Development Programme therefore includes a long-range scheme for greatly improving the irrigation of agricultural lands. Many possible projects have been studied. For the first phase of the programme, to be carried out over the next ten years, we have decided upon four major developments:

*The Mu River Irrigation Project.* The area lying in the triangle formed by the Chindwin and Irrawaddy Rivers, from their confluence north to Wetto, is a vast acreage suitable for agriculture, nearly all of it accessible to irrigation from the Mu River.

Throughout this area—lying in the Shwebo, Sagaing, and Lower Chindwin Districts—the population density is low, production per acre is low compared to the average for Burma as a whole, thousands of acres of arable land are uncultivated, large amounts of land are left fallow, and many other acres have to be replanted or abandoned each year because of the deficiency in moisture.

Yet the soil is suitable for the growing of rice, groundnuts, pulses, sesamum, millet, maize, and other products.

By providing uniform water supply all the year round this project will increase yields per acre for existing crops, provide for a second crop during the dry season, eliminate fallow and abandoned land and crop failures, bring new acreage into production, and increase the economic and social well-being of the population of the whole area.

The Mu River irrigation project will provide over 1,100,000 gross acres with supplemental irrigation during the rainy season and provide for a second crop during the dry season. Installation of power-generating equipment in conjunction with the irrigation development will produce low-cost power for pumping from the Chindwin and Irrawaddy Rivers south as far as Seikpyu, thus extending the benefits to large additional areas.

*Yamethin District Irrigation Project.* Here is another area of very low per-acre production, thousands of acres of arable land not under cultivation, and large acreages left fallow or abandoned because of a lack of enough water at the right time.

Two persons out of every three in this whole area are dependent on farming, and their welfare is in constant danger of a failure of early rains for the nurseries and initial crop growth, the failure of late rains for maturing the crops, and the uneven distribution of rainfall during the growing season.

Although 75% of the cultivated area is planted to rice, here, too, is an area that can greatly increase the production of sesamum, maize, pegyi, tobacco, pulses, sugar-cane, groundnuts, and vegetables.

The Yamethin District project is designed to increase total production and yield per acre by providing a guaranteed supply of water to eliminate crop failures and fallow land, bring new acreage under cultivation, and introduce double-cropping.

This project involves the development of all the water resources in the upper valley of the Sittang. The over-all project contemplates development and economical use of the water supply from the Thitson, Shwebo, Sinthe, Yezin, Ngalaik, Saing, and Swa Chaungs, the Paunglaung River, and the Myaungmadaw Canal–Kyeni Tank installations. Of the 609,450 gross acres to be supplied with irrigation water from reservoirs on each of the units listed above, 400,250 acres are in the Yamethin District and 209,200 in the Toungoo District.

The project includes the tapping of the underground water supply from which water will be pumped to the land.

Irrigation installations already in the area will be improved and incorporated in the project.

*Kandaw Village Irrigation Project.* Reconstruction of the old embankment dating back to the original Meiktila Lake construction will create a storage reservoir near the north edge of Kandaw Village which will be of great benefit to several small villages around the tank perimeter, and which will be adequate to irrigate the area adjacent to the village on the east and extending south to the Irrawaddy.

The area to be served is strictly agricultural. The rainfall is very low and occurs during flash showers, with the result that a large proportion runs off without benefiting the land. During the long dry season much time and effort are expended carrying and transporting water for home use.

Most of the soil in the area to be irrigated is very rich and well adapted to the growing of groundnuts. It has been estimated that irrigation, together with the use of fertilizer and improved seed and cultivation methods, can increase by four times the present yield per acre, even without a second crop.

The economic and social benefits of the Development Programme become clear when one thinks of a village family in the Kandaw area harvesting four baskets in the future from the same land that today produces only one basket.

*Loikaw Area Irrigation Project.* In the Kayah State in the Shan Plateau, peopled by the Karen group of races and the Shans, the Yawnghwe Valley area is self-sufficient in rice and produces groundnuts, oranges, papayas, vegetables, and maize. In addition, the valley is well suited for the raising of livestock. Temperature, rainfall, and altitude, together with rich upland areas for grazing and rich lowland for production of feeds, are ideal for such an industry.

The irrigation project envisioned would raise the water from the Balu Chaung by pumping. Together with a hydroelectric power project downstream, this would provide the initial requirements for an over-all economic development of the Yaunghwe Valley.

Details of this project remain to be worked out, but it has been given a high priority because the water of the Balu Chaung, flowing nearly the full length of the Yaunghwe Valley from Inle Lake in the north, is sufficient the year round to irrigate the land of the valley if the flow is regulated and pumping systems provided.

In addition to these four projects for priority attention, others have been studied and preliminary surveys made for later development. Principal among them are proposals for:

> *Addition of levees,* installation of drainage and flood gates, construction of a drainage canal, and installation of pumps at *Thongwa Island.*
>
> *Irrigating* the area around Pakokku, where the soil appears to be above average for oilseed production, by a series of small well installations to draw on underground water resources.

Looking still farther ahead, the Government is carrying out surveys for possible irrigation projects in the Pegu area, at Maubin, in the Buthidaung area, at Yandoon Island, Henzada-Zalun, the Prome area, and along the Mon, the Yanbe and Yin, Myitnge, Myittha, Shweli, and Irrawaddy Rivers.

*Under present farming methods, it is estimated that irrigation will bring increased harvests of from 20 to 30% over present yields.*

All these projects, therefore, will bring large direct benefits in the form of increased production. This will stimulate transportation and local business of all kinds, open up new job opportunities, and generally raise the standard of living in the affected areas.

But irrigation works are expensive, and their cost can be justified only if the land under irrigation is cultivated intensively and produces crops of good cash value. Increased use of water, therefore, must be accompanied by the adoption of improved farming practices, such as the use of better seeds, crop rotation, improved cultivation methods, and development of a double-crop system. The following table illustrates this point by showing the increased value of crops resulting from irrigation alone compared to the increased value of crops resulting from irrigation plus other improved farm methods:

| *Project* | *Net annual direct benefits using present farm methods* | *Net annual direct benefits using modern farm methods* |
|---|---|---|
| | *Kyats* | *Kyats* |
| Mu River Irrigation . . | 57,347,000 | 226,837,000 |
| Yamethin District Irrigation | 14,207,000 | 52,170,000 |
| Kandaw Village Irrigation . | 631,000 | 1,135,000 |
| Loikaw Area Irrigation . | 1,115,000 | 4,280,000 |

Thus it will be seen that the benefits of irrigation can be multiplied from two to four times by the adoption of modern farm methods. And this illustrates a fundamental point: our long-range plan for the economic and social development of the New Burma envisions a thorough-going revolution in the structure of our agricultural economy, and in the methods of producing and marketing agricultural products. This revolution cannot come over-night. It will require many, many years. For it literally will involve radical changes in the daily practices, habits, *and attitudes* of the farmers and farm workers of Burma—two-thirds of our entire working population.

**V. Demonstration Farms.** As testing-grounds for the long-term revolution in agriculture, the Government plans to establish demonstration farms to provide practical testing-grounds for agricultural economics and engineering, to make accurate cost determinations on the basis of actual experiences, and to serve as active training centres for future modern farmers.

For example, it has been decided to establish demonstration farms near:

*Pakokku*, which has relatively fertile sandy soil well adapted to the production of groundnuts, and where irrigation plus mechanized farming might create a flourishing agricultural area in the heart of the dry zone.

*Loikaw*, to test dryland farming techniques and demonstrate the practicability of combining grain and groundnut production with that of dairy and livestock.

*Yamethin*, to concentrate on the diversification of agriculture, dry-zone soil-improvement techniques, and the fattening of livestock.

*Pyinmana*, to experiment with mechanized sugar-cane production.

*Toungoo*, to concentrate on a highly intensified rice production programme.

**VI. Research and Education.** Although the long-range agricultural development plan is bold and far-reaching, the Government does not intend to rush into extensive projects without adequate information and thorough testing. To this end we must expand our research and laboratory facilities. Among the outstanding subjects for research and experimentation are the questions of developing suitable crops other than rice for the delta regions; methods of hillside agriculture that would prevent soil erosion; the introduction of new crops and new crop varieties, such as soya beans, safflower, castor plants, sisal, jute, kudzu, alfalfa, lespedeza, and clover; the improvement of seeds, principally for sesamum and groundnuts; the development of insect control to reduce the damage caused by insects; the laboratory testing and classification of soils throughout the country; the development of a livestock programme; and research into the engineering technique and equipment suitable to Burmese agriculture.

**VII. Advisory Services.** But the results of research and experiment must be made known to the individual farmer so he can put them into practice and reap their benefits. In addition to the establishment of demonstration farms, this will require the Government to expand greatly the extension services now provided to farmers. The average extension worker now is responsible for about 300 villages, and normally he cannot visit more than seven or eight of them per month. But in a few areas where extension workers have been able to concentrate their efforts, the results have been excellent. Shangalay Kyun village, near Mandalay, offers an excellent example of what can be done. Here the Department of Agriculture encouraged the planting of Virginia tobacco, which has raised incomes substantially for farmers and provided off-season employment for the villagers.

The Department of Agriculture, therefore, plans to expand its advisory services as rapidly as possible so that ultimately there will be an extension worker for every five village tracts.

**VIII. Farm Credit.** An important reason for the low income of farmers has been the outrageous share of the total value of agriculture production which has gone to non-agriculturists in the form of rents, interest on loans, and trading profits. The Government of Burma has taken steps to correct these conditions through rent controls, land nationalization, formation of cooperatives, establishment of State and cooperative markets, and the development of an adequate and reasonable system of agricultural credit to provide farmers with both investment and operating loans.

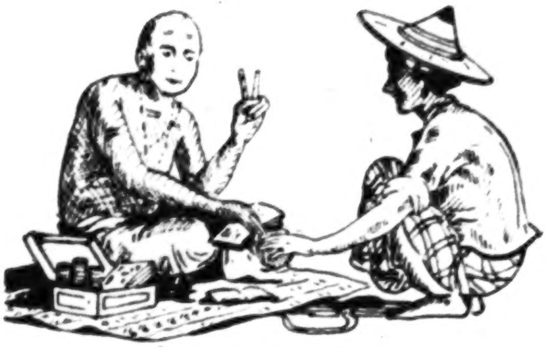
To begin building credit facilities in Burma, we have arranged for the establishment of the State Agricultural Bank with branches in four districts. The bank will issue loans at reasonable rates to cultivators in those districts. In other districts the Government will continue to make direct loans to farmers and cooperatives. The total of loans to agriculturists through various agencies this year is more than double the amount issued in 1951–52. This is apart from special subsidies for acreage expansion and the increasing level of loans for land improvement work being handled through Pyidawtha grants.

Under the State Agricultural Bank plan, village banks will be established to make seasonal crop loans to farmers in their area. The banks will be directed by a bank committee under the chairmanship of the village headman.

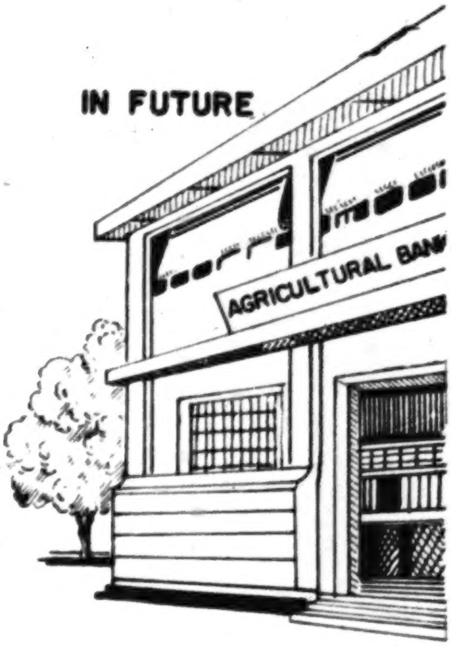
In the New Burma no cultivator will be forced to pay extortionate rates for borrowed money, which in the past have ranged as high as 400% per annum. The rate established for village bank crop loans is 12% per annum. But the establishment of a sound and comprehensive agricultural credit system requires not only that the Government make loan funds available, but that the farmers themselves come to understand the function of agricultural credit, the need for adequate security for loans, and the necessity for repay-

# MORE AND CHEAPER CREDIT FOR THE CULTIVATOR

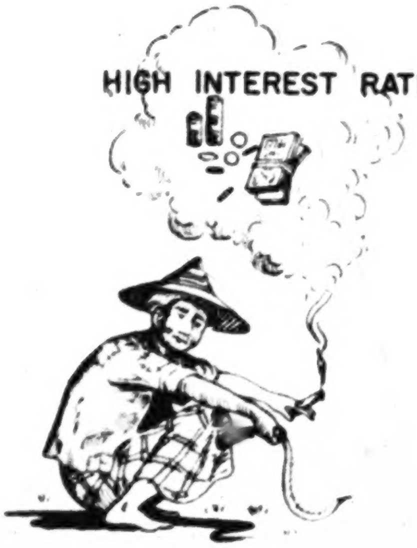
IN PAST



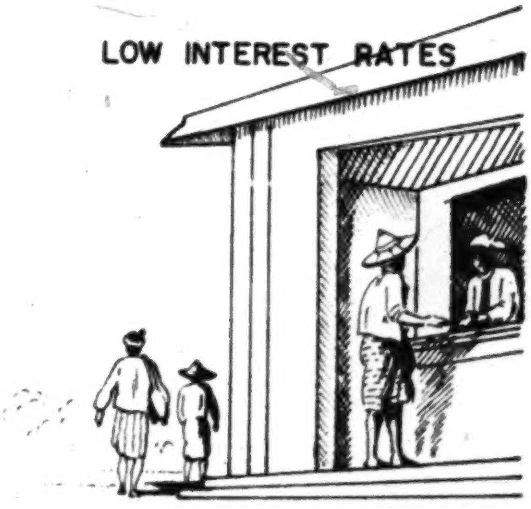
IN FUTURE


AGRICULTURAL BAN

HIGH INTEREST RATES



LOW INTEREST RATES



ment. An important part of our plan for extending agricultural credit facilities to the village level is the parallel spreading of knowledge among cultivators and the development of responsible village organizations to channel loans to the farmers.

**IX. Marketing.** As things are today, the individual farmer does not get his full share of the central market price for his product. Usually ignorant of conditions outside the immediate area of his own land, he is in a poor bargaining position in selling his product to traders.

To overcome gradually the discrepancies that exist and to bring to the cultivator a better return, the Development Programme includes several activities designed to improve marketing conditions for agricultural products. They are:

*The expansion of farm cooperatives*, which can take over many of the functions of brokers and other middlemen. Cooperatives can build joint facilities for storage, threshing, and simple processing, thus retaining for the farmer a larger share of the final price of his product. They can hold stocks in periods of low prices, keep in touch with market conditions in other parts of the country, arrange for transportation to larger markets, and perform other functions that will greatly improve the bargaining position of the individual cultivator. Today there are 12,000 farm cooperatives in Burma, but their success has been limited due to the lack of technical and management experience to run them efficiently. The improvement of present cooperatives and a large scale extension of cooperative organizations thus depends upon educating farmers in the function of cooperatives and the training of competent managers.

*Completion of the programme begun before the war to enforce the use of uniform standards of weights, measures, and grades.* The lack of such standards leads to large discrepancies in what farmers receive in different markets for the same basket of paddy or of groundnuts. When accepted uniform standards of weight, measure, and grading do not exist, sales tend to become a question of personal bargaining between producer and trader. An investigation a few years ago showed farmers being short-weighed in the markets from 3 to 11%.

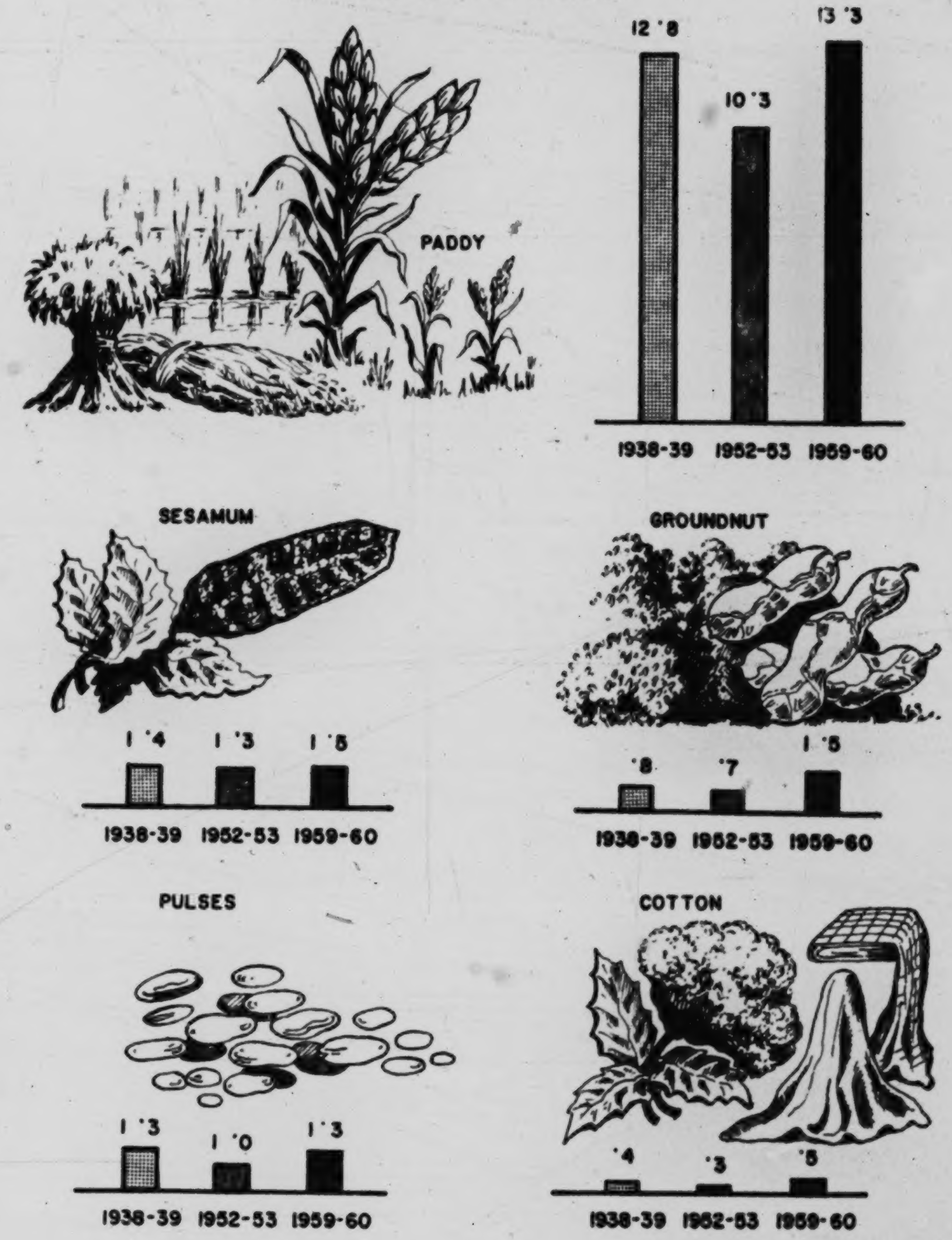
*The development of a system of reporting and forecasting crop and market conditions*, so farmers can plan production better and market their crops to better advantage.

*Extensive construction of farm-to-market roads*, so individual farmers are no

## THE PRODUCTION OF ALL MAJOR CROPS WILL SOON EXCEED THAT OF PRE-WAR

### SOWN ACREAGE OF CROPS

(IN MILLIONS OF ACRES)



longer isolated and restricted to village bazaars or jungle brokers for the disposal of their crop. This is discussed in more detail in the section devoted to transport development.

## GOALS AND DATES

The long-term revolution in agriculture that is part of our plan for the New Burma will be many years in developing.

But as an interim goal we are aiming at an increase in production of 77% over 1951–52 levels by 1960. During this period we expect to improve, in varying degrees, approximately 1,165,000 acres, or about 7% of the cultivated land of Burma. This, together with restoration of formerly cultivated land, and improved and expended State marketing practices, would increase income from farming by over 20%.

While these advances are taking place we shall be laying the foundation for further improvements—by the construction of irrigation works, by building our own fertilizer factory, by extending credit and informational services to farmers.

In the long run—as our research advances, knowledge increases, and techniques improve—we look forward to the development of a thoroughly modern agricultural system specifically designed for Burma, which will provide the bulk of the food supplies needed to provide a good diet for our people; which will provide the farmer with a rising standard of living; and which will earn for the nation, from sales abroad, a large percentage of the foreign currencies needed to buy the products we want to import.

# FORESTRY AND FISHING

## FORESTRY

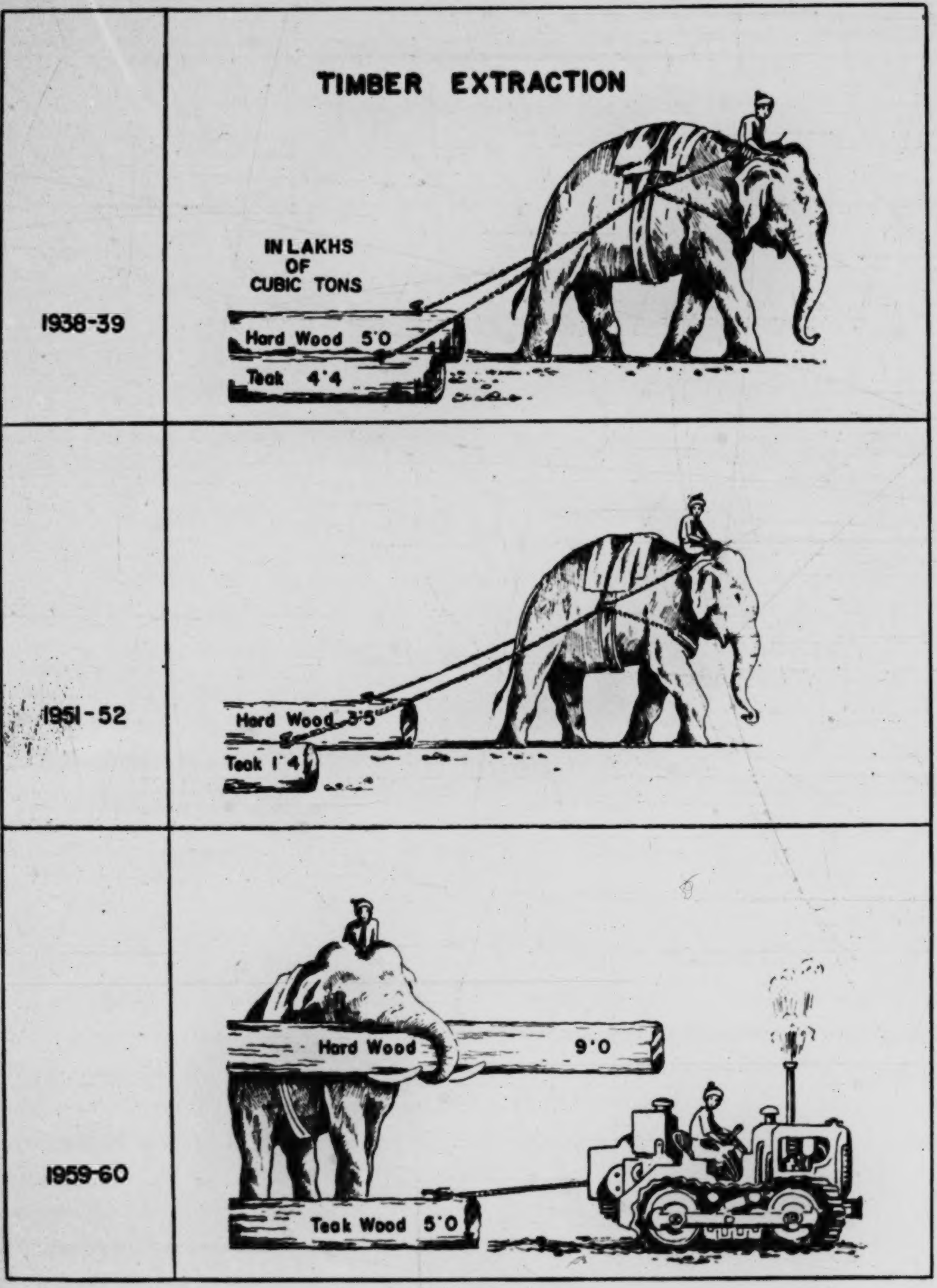
IN addition to food crops, our soil produces magnificent forest growth—not only of our famous teak but of other hardwoods, and softwoods as well. They constitute one of our potentially most valuable assets, providing an important material for domestic construction and a source of foreign exchange from exports.

Before the war, Burma was the world's leading source of teak wood, but extraction of teak and other woods has been disrupted seriously for over a decade now, due first to war and then to insurgency and dacoity. In 1938–39 we exported 204,000 cubic tons, compared to our present export rate of 50,000 cubic tons.

Restoration and expansion of forestry and the development of industries based on forest products will contribute significantly to our Economic Development Programme.

In the present state of our planning for this field, the following developments are envisaged:

*The development of a programme for integrated forest industries* is under active consideration by the Government of the Union of Burma, with the assistance of the Food and Agriculture Organization of the United Nations. This is the first programme of its kind to be introduced in Asia. One of its major objectives is to make fuller use of our forest resources, and particularly to utilize the large proportion of timber which now goes to waste. Of the 250 potentially useful species that can be found in our forests, only about 50 species are now commercially utilized. Of the timber that is extracted from each forest area only about 40% produces sawn timber, while 60% does not find any major economic use. The integrated wood-industry programme aims at fuller utilization of this enormous waste. Its other features include the use of mechan-



*Note.*—One lahh ~~equares~~ 100,000.
equals

ized extraction and the erection of a series of integrated fabricating units in various parts of the country, that will comprise a wide range of facilities designed to make the fullest possible use of the timber available. Thus a typical unit will include, in addition to a sawmill, facilities for producing precut structural units for low-priced houses; an impregnation plant for converting non-durable and semi-durable species into durables; a woodworking shop for mass-producing doors and windows, a factory for converting sawmill waste into chipboard; and a kiln seasoning plant.

*An increase in teak extraction* of 150 to 200% from the current rate of about 150,000 cubic tons to between 450,000 and 500,000 cubic tons of round logs by 1960. While 400,000 tons normally is the maximum yield consistent with good conservation practice, the very low rate of cutting during the past decade would make it permissible to exceed that level for a period of ten years or so.

*An increase in the extraction rate of other woods* over present levels by roughly the following percentages by 1960:

> 190,000 cubic tons of durable woods and 640,000 cubic tons of semi-durable woods, or about 140% above present levels for the two groups combined.
>
> 60,000 cubic tons of non-durable woods, or about 20% over the present level.

*Experimental use of mechanical equipment* to supplement the traditional use of trained elephants for logging teak and other woods. It is estimated that the number of trained elephants has declined from 6,500 in 1941 to 1,200 at the present time.

*Improvement in transport facilities* to provide a continuous and uninterrupted flow from forest to sawmill. This involves adequate arrangements for the rafting of logs as part of other plans for river and stream utilization, arrangements for proper handling equipment, and possibly the construction of access roads.

*Expansion and standardization of sawmill operations so lumber will be cut to identical dimensions.*

*The development of turpentine and resin extraction from the pines of the Shan State.*

*The development of lac extraction* for both domestic use and for export.

*Increased and improved use of mangrove forests* by using the bark for extraction of tannin and for industrial charcoal and other chemical by-products.

*The use of bamboo as a raw material* for the manufacture of pulp and paper.

## FISHERIES

In a nation with a long sea coast, fish and fish products should contribute important and inexpensive food values to the national diet. Yet it is estimated the average consumption of fish and fish products throughout Burma does not exceed 24 pounds per year, contrasted with *per capita* consumption of 75 pounds annually in Japan.

Burma imports over 10,000 tons of fish and fish products annually at a cost of K25 million. This, plus the lack of facilities for freezing, processing, storing, and transporting sea-food, results in prices that are much too high. For example, it is estimated that about 30% of the cost of food for the average family in Rangoon is spent for fish.

Until recently the deep-sea fishing industry in Burma had been carried on by a small fleet of privately-owned fishing-boats operating out of Tenasserim ports, principally Mergui. Although data on the types and quantities of fish in the seas around Burma are very restricted, it appears that tuna are to be found in the coastal waters at certain seasons of the year, and that generally the most productive fishing-grounds are the waters around the Mergui Archipelago.

Economic development plans for the New Burma include systematic development of the fishing and fish products industries. The establishment of the Martaban Fishing Co. with Japanese and Burmese capital represents the first stage in this programme. Additional projects include the building of a fishing fleet and the construction of a tuna cannery, a fish-meal and fish-oil plant, and three cold-storage plants at Rangoon. These, like the wood-products industries mentioned before, will constitute part of the Greater Rangoon Industrial Development Scheme.

# HIGHLIGHTS OF THE TRANSPORTATION PROGRAMME

THE Economic Development Programme proposes to transform a badly damaged and seriously inadequate transport system into a modern network of land, water, and air communications.

This will be a long-term task, but interim programmes have been established for rapid progress with the aim of keeping our transport facilities abreast of the growth of other segments of the economy. Among other things, this involves:

> Extensive improvements in railway service and equipment, including the addition of several hundred new passenger cars.
>
> A large programme of rebuilding and modernization of river transport facilities.
>
> Thorough rehabilitation of our major road system and a far-reaching programme of secondary road construction, including farm-to-market roads.
>
> Development of Rangoon harbour into a thoroughly modern international seaport.

# TRANSPORTATION

## THE BACKGROUND

THE interchange of goods and information—and thus the development of human society—depend upon transportation and other forms of communication. If production, trade, and living standards are to rise and if cultural exchange is to flourish, then we must have a transportation system that facilitates, rather than frustrates, our growth.

It is difficult to discuss transportation without reference to geography. The principal geographic factors influencing Burma's present and future transportation system are that the mountain chains and rivers run roughly north and south, making transverse communication difficult by ground; that in the great delta region, stream crossings are so numerous that road and rail transport is virtually impossible; and that the mountainous terrain along the boundaries of the country makes overland communication with our neighbours extremely difficult.

Prior to the war, Burma had a transportation system adequate to the material needs of a primitive country in colonial status. Today we are a sovereign nation launched on a great programme of economic development and modernization. Yet our present transportation system is far inferior to what existed before the war.

Under almost constant attack through five years of the war:

> The great port of Rangoon was virtually destroyed, Akyab was left with but one building in the whole port and city still standing, and other ports received varying degrees of damage;
>
> Almost 50% of the total plant, equipment, and rolling stock of the Burma Railways was destroyed;
>
> Of the pre-war river fleet of 600 craft of the Irrawaddy Flotilla

Company, only 106 vessels could be salvaged and restored to operation at the end of hostilities;

And our road system was in very poor condition due to incessant attack, abusive use, and lack of maintenance.

On the roads and rivers, insurgency has continued to take a toll and to hamper repair and maintenance work.

Just to repair the dreadful damage would require vast sums of money, materials, and equipment over a considerable number of years. Yet the transportation system of the New Burma must handle the domestic and foreign commerce created by the cultural, industrial, and agricultural activity of an expanding economy and a growing population. As with other segments of our Development Programme, we cannot be satisfied with restoring the transportation system to what it used to be: it must be better than that.

## THE OBJECTIVES OF THE TRANSPORT PROGRAMME

The objectives of the transport development programme are to provide adequate, cheap, and rapid transportation by the most efficient means available for both goods and passengers. To keep pace with the growth of agriculture, industry, mining, and other parts of the Development Programme we propose:

*To restore and improve our railway system* by the establishment of law and order; by closing existing gaps in the lines; by replacing damaged bridges, housing, and roadbeds; by re-opening certain branch lines; by acquiring additional goods wagons and passenger cars; by installing heavier rails on some lines; by improving schedules and services; and by reducing costs.

*To improve port facilities*, principally by restoring, expanding, and modernizing the port of Rangoon, together with the completion of repairs and improvement of maintenance and other services at the major seaport and river ports.

*To carry out a ten-year programme for the rehabilitation of the river fleet* and services related to riverine commerce.

*To acquire 3 vessels for operation of a coastal service and 4 vessels for the rice–coal trade with India.*

## TRANSPORTATION DEVELOPMENT

| FOR IMPROVEMENT OF | WE WILL SPEND | ON |
|---|---|---|
| RAILWAYS | K 27 CRORES | REHABILITATING, IMPROVING RAILWAYS SYSTEM |
| PORTS | K 25 CRORES | RESTORING, EXPANDING AND MODERNIZING OUR HARBOURS |
| WATERWAYS | K 25 CRORES | RIVER FLEET DEVELOPMENT PURCHASE OF VESSELS FOR COASTAL SERVICE |
| HIGHWAYS | K 50 CRORES | MAJOR RECONSTRUCTION AND EXTENSION OF HIGHWAY SYSTEM |
| AIRWAYS | K 9 CRORES | IMPROVEMENT OF SERVICES AND EXTENSION OF OPERATIONS OF BURMA AIRWAYS |

*Note.*—One crore equals 10 million.

*To carry out by stages a major reconstruction, improvement, and extension of the highway system*, including union roads, district roads, farm-to-market roads, and access roads.

*To improve the services and extend the operations of the Union of Burma Airways* as justified to meet the need for both passenger and freight service.

*To coordinate the development of rail, road, water, and air transport* in such a way as to further the over-all development of our transport facilities, while maximizing the natural advantages of each mode of transportation.

*To review carefully the rates charged by all our transportation services for both freight and passengers*, and to make such readjustments as will best promote the goals of the Development Programme and best serve the needs of all our people.

## THE PROGRAMME

Each mode of transport has distinctive characteristics. Railroads are suited best for long hauls of a reasonably constant volume of traffic for which regularity and reliability of schedules are important. Waterways should provide the cheapest form of transportation when speed is unimportant. Road transport affords maximum flexibility of routes and schedules. Airways offer speed and the most practical access to areas cut off by difficult terrain.

The different modes of transport are both competitive and complementary. One or more of them serve the needs of an area under today's conditions, but tomorrow's conditions may call for new or altered transport services. In general, the existence of several modes of transport provides for the greatest flexibility, and thus serves the interests of an expanding economy.

Our transport development programme therefore proposes to provide the widest variety of service and the most frequent, convenient, and economical service to every community in the New Burma.

More specifically, the programme covers the following areas of development:

## RAILWAYS

At the end of the war, the railways of Burma, in the words of the Edwards Evaluation Report, had "ceased to exist as a transport system." Yet a complete, efficient, and well-functioning railway system is essential to the success of Government plans for increased agricultural and industrial development, and for the consequent improvement of economic conditions in Burma.

Here is the statistical story of the toll of five years of war:

| | |
|---|---|
| Locomotives | 285 out of 350 destroyed |
| Goods Wagons | 7,000 out of 9,500 destroyed |
| Coaches | 956 out of 1,156 destroyed |
| Stations | 44 major stations and all their installations destroyed. |

Total war losses—in plant, equipment, and rolling stock—amounted to 48% of all the facilities of the Burma Railways.

No single section of Burma's railways has escaped heavy damage from war and insurrection. Before the war Burma had 2,058 miles of railroad lines in operation. By September of 1953, 1,649 miles of line were in operation, leaving 409 miles—most of it through areas in the hands of insurgents—still to be restored.

To complete the restoration of Burma Railways, and to modernize certain of its operations, will require another six to ten years.

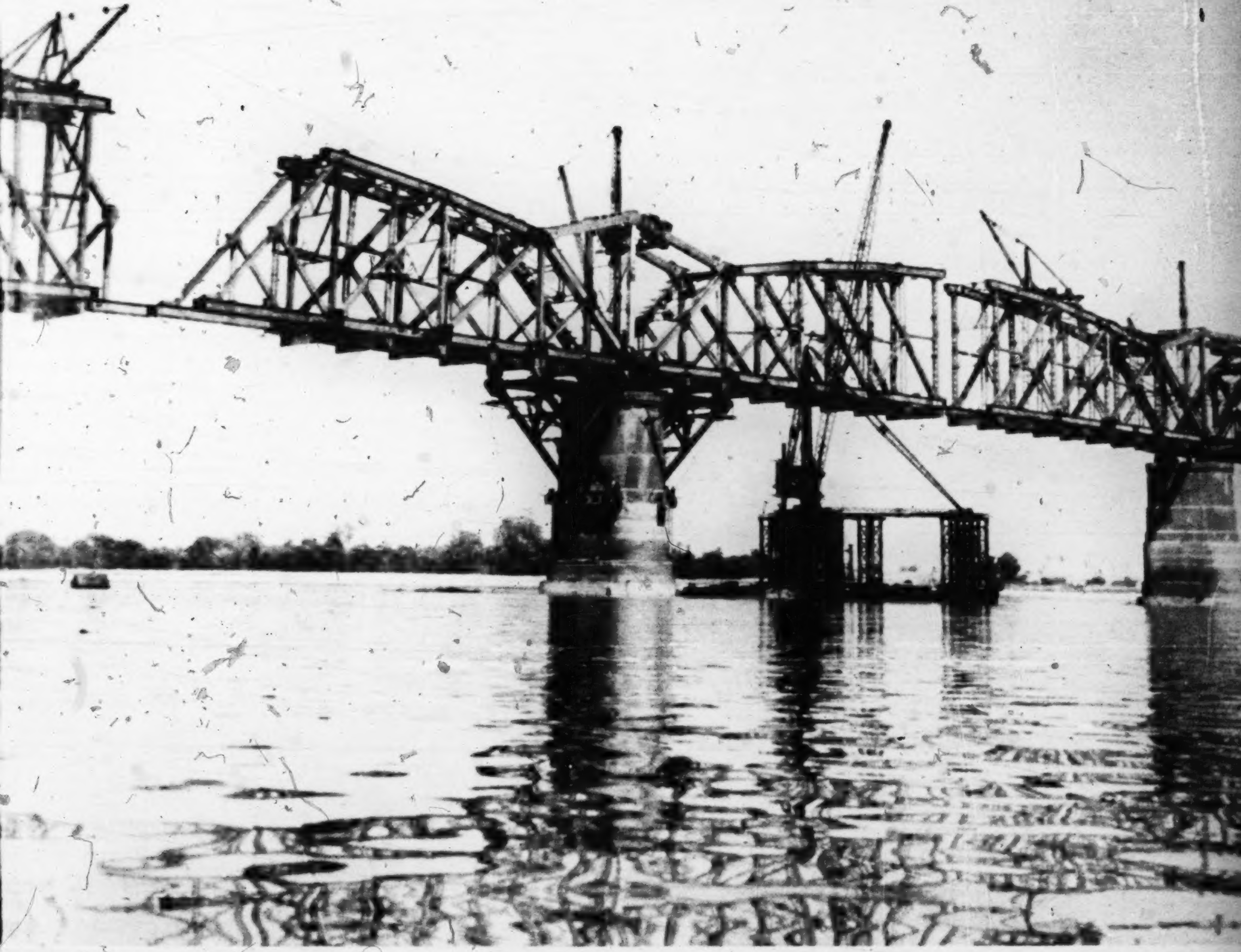
The programme includes the following parts:

*Closing the gaps in the line* at the Ava Bridge across the Irrawaddy near Mandalay, the Sittang River Bridge on the Moulmein Branch, and the Daga River Bridge on the Henzada–Bassein line—all destroyed by war action; the Salween crossing between Martaban and Moulmein. Reconstruction of all three bridges has begun and the Ava and Daga structures will be completed early next year (1955).

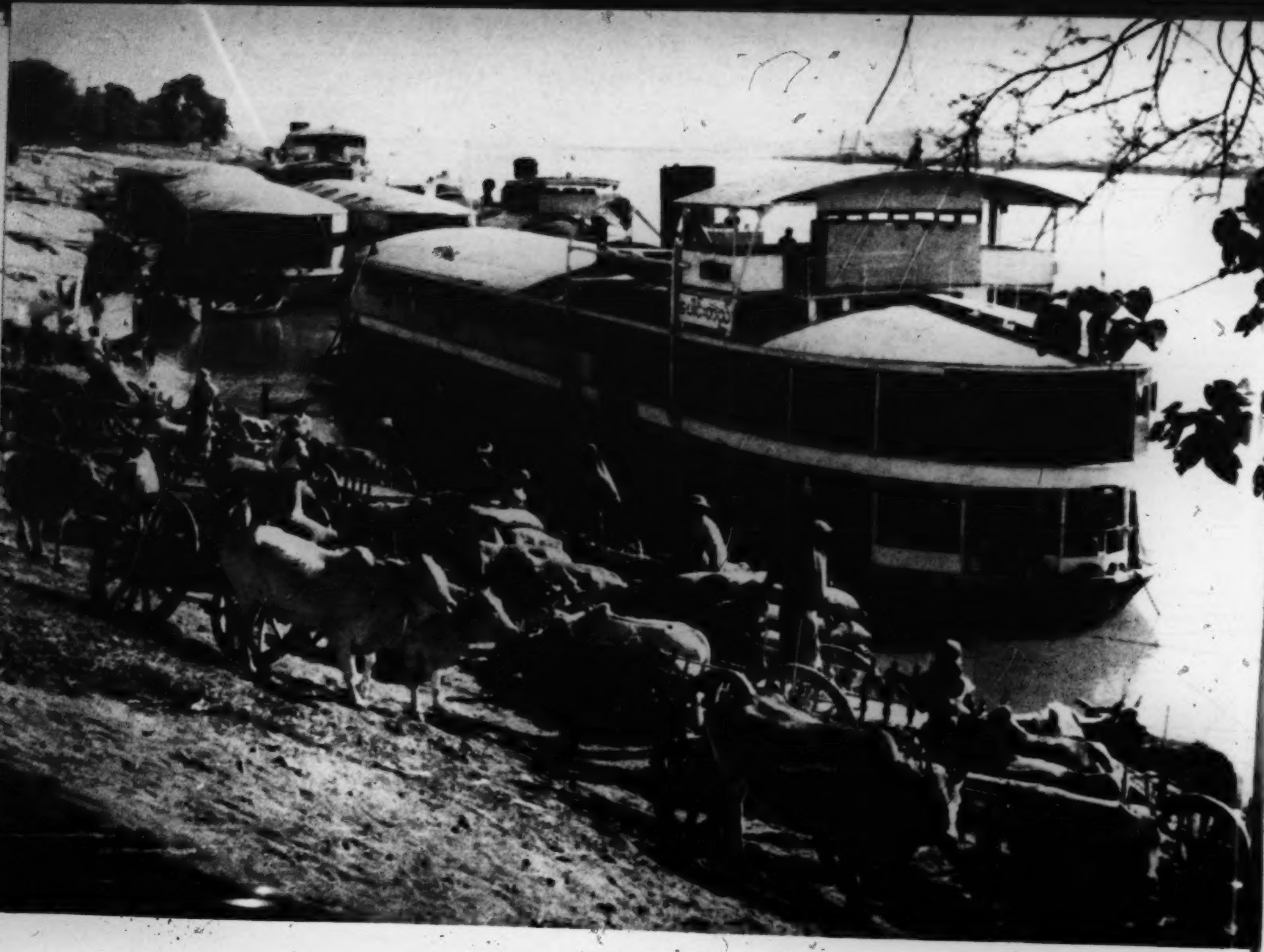
*Completing the restoration of station buildings* at Prome, Shwebo and 120 wayside stations. The Rangoon station was opened in June, 1954.

*Completing the restoration of housing quarters* for all railway employees.

*Placing new passenger carriages in operation.* Two hundred are under construction in Rangoon and eighty-six more have been ordered from India.



AVA BRIDGE UNDER RECONSTRUCTION



ON THE IRRAWADDY RIVER

All are of modern design, including toilets, water, lights, and fans. Passenger traffic is expected to increase about 40% by 1960.

*Providing adequate goods wagons* for an expanding traffic. Plans call for the building of 2,000 new covered goods wagons for general cargo, 200 timber wagons, and 500 cattle wagons in addition to the rebuilding of 200 damaged timber and cattle cars.

*Acquiring* 26 *additional locomotives.*

*Completion of restoration and improvement of railway shops* at Insein and Myitnge.

*Extensive track improvements.*

*Development of signal facilities, watering facilities, locomotive* running sheds, service buildings, and miscellaneous station equipment.

*A general improvement in efficiency* through more economic use of staff, reduction of costs, and improvement in services on both goods and passenger trains. A number of our railway officials recently went abroad to study every aspect of modern railroad operation, and what they learned that is useful for Burma will be applied to our railway system.

In the meantime, our reconstruction and improvement programme has been studied intensively by qualified engineering experts from abroad, who stated, in their final report to the Government of Burma:

"Burma railwaymen, from staff officers to coolies, have behind them a fine record of repairing war damage and restoring service. Considering conditions of insurgency existing continuously since early 1949, and the remoteness from sources of equipment and materials supply, the results have been outstanding.

"Opportunity now exists for Burma Railways to better its good pre-war service and to move forward to become the most progressive railway in East Asia. . . ."

## SEAPORTS AND WATERWAYS

The well-being of our people depends to a large extent on the exchange of our products for goods imported from abroad. Because of the physical difficulties of overland transportation across our frontiers, Burma must rely very largely upon seaborne commerce to maintain and improve our position in world affairs and international trade—and thus the strength of our domestic economy.

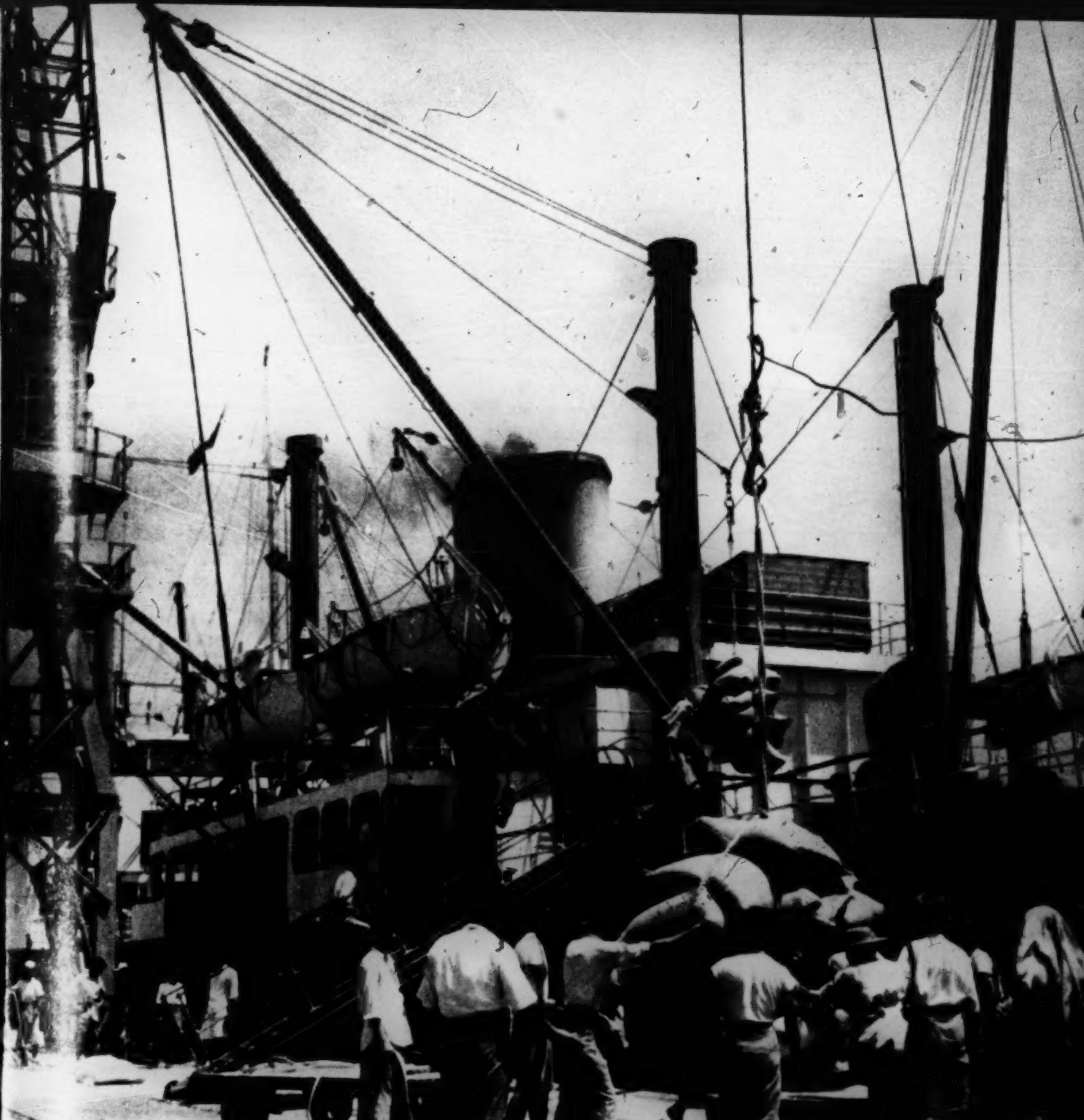
Therefore we must maintain adequate seaports to accommodate seagoing, coastwise, and riverine commerce and establish efficient facilities for handling a rising volume of cargo as the general level of economic activity increases with the progress of our development programme.

Burma has six major ports—Rangoon, Akyab, Bassein, Moulmein, Tavoy, and Mergui. Rangoon is by far the most important, handling 85% of our foreign trade and 44% of coastal commerce, and serving as the principal terminus for the riverine commerce of the waterways of the great Irrawaddy River and delta systems. It is the only port capable of receiving and effectively distributing goods to the larger part of the country. Rangoon is a kind of funnel for a large segment of the business and commerce of the whole nation; and the efficiency with which the port is operated, therefore, will regulate, to a considerable extent, the pace of our economic growth. The Port of the City of Rangoon suffered greatly during the war, starting with the evacuation in 1942 and subsequent devastation from air raids until 1945. The entire wharf and jetty area was damaged badly; the cranes, pontoons, and jetties were sunk in the river; and sunken vessels and other wreckage prevented access to what remained of the wharves and jetties. Important dockyards, shops, and other facilities were destroyed along with all warehouses and transit sheds. The lower reaches of the Rangoon River entrance channel and sea approaches were heavily mined.

Rehabilitation started immediately after the liberation of Burma and the port was returned to partial operation in a remarkably short time.

As things stand now, however, the port is handling only 40% of the pre-war volume of commerce; under present methods of cargo-handling the existing wharf capacity is nearing the saturation point; and serious difficulties and delays are being experienced in unloading cargoes from lighters to storage warehouses. To handle the three-fold increase in commerce that will result from our economic expansion, the Port of Rangoon must not only regain its pre-war capacity and efficiency but become a thoroughly modern port in design and operation.

The efficiency of a port is measured by the time it takes a vessel to dock, unload, reload, and return to sea. At present the average time for these operations at the Port of Rangoon is six and one-quarter days. Our goal is to reduce this time to one and three-quarter days—a saving of four and a half days.



RANGOON PORT

MECHANIZED ROAD CONSTRUCTION, MINGALADON, RANGOON

To carry this out we have prepared a long-term plan, divided into stages, of continuous expansion and improvement over the next twenty years. This Master Plan involves the improvement of existing installations, provision of new facilities, the introduction of mechanical cargo-handling, and various other projects.

It is essential to the success of this plan to have the full cooperation of the workers of the Port, for there is urgent need to abandon outmoded methods and install modern mechanical methods of handling cargo. In doing this we shall see that the fear that unemployment results from mechanization is a false prejudice. We shall come to understand that employment, wages, leisure time, and real income all increase with mechanization. As we gradually liberate man from the status of a pack animal, we shall see that in the New Burma, man, who is master of the machine, will gain new dignity by putting the machine to work for him.

*Other Ports.* At all other ports, the reconstruction of war damage is virtually complete, and the major requirements for the future have to do with certain rectifications, maintenance work, and preparation for a gradual increase in traffic as the level of general economic activity rises. Brief descriptions of the status and plans for these ports follow:

*Akyab.* Akyab is the oldest rice-exporting seaport of Burma, and serves approximately 1,000 square miles of productive paddy land. Dredging has been carried out alongside the wharf, so that seagoing vessels may again be able to berth directly at the wharf as they did pre-war.

At the end of hostilities only one building was left standing in the entire city and port area, and nearly 30 vessels were sunk in Cherogeak Creek. These have now been removed, and repairs to both the stone pier and main wharf are essentially complete.

The present volume of trade is about 50% of the pre-war level, but with the return of normal conditions and the full development of cultivated land in the district the export of rice and rice products will exceed the pre-war rate. Plans for industrial development in the Akyab area that will result in increased traffic at the port will be described in a later section.

The plan for the port of Akyab includes the completion of port and channel rehabilitation; the dredging and widening of Cherogeak Creek; the installation of cranes; the consolidation of marine repair facilities; maintenance dredging; and preparations for the introduction of mechanical handling facilities for paddy, bagged rice, and other cargo.

*Bassein.* Bassein is the farthest inland seaport in Burma, but the second largest in the country. The volume of rice exports from Bassein is second only to that of Rangoon, and the port now handles nearly 10% of all Burma's foreign trade.

However, there was very little war damage at Bassein; there are no major cargo-handling problems; and mechanization would not be economically justified under foreseeable conditions. The improvement programme for this port therefore is limited to dredging, installation of navigational aids, the provision of cranes, maintenance work, and the eventual construction of State Agricultural Marketing Board warehouses and an adjacent wharf to centralize rice shipping facilities.

*Moulmein.* Moulmein is the third largest seaport in Burma, handling 5% of foreign trade and 15% of coastal trade. War-damage repair is virtually complete. Plans for Moulmein are limited to river dredging; the installation of lighted buoys and other markers for night navigation; consolidation of all marine repair facilities; and installation of the new cargo jetty being assembled at Rangoon. Large scale mechanization of handling equipment is not justified at the present time.

*Tavoy.* Practically all war damage has been repaired. Immediate improvements foresee the removal of rock shoals from the anchorage area, and the possible construction of retaining walls to improve the condition of the channel.

*Mergui.* The port of Mergui plays an important part in the coasting trade, handling nearly 21% of all the country's coasting commerce. Removal of war-damaged structures has been completed, rebuilding of the main wharf is nearly completed, and a new pontoon jetty is being installed. It is planned to extend the Naukle Jetty; install a crane; build a new customs house, warehouse, and port office; acquire two dredgers; and remove the wrecked freighter from the entrance of the Great Tenasserim River, which is the last remaining wreck interfering with navigation.

## INLAND WATERWAYS

Burma can be described geographically as a series of river valleys, running north and south, separated by mountain ranges. These great rivers and their tributaries, plus the intricate tracings of streams and creeks that lace the Irrawaddy Delta, have for centuries provided the principal means of communication within Burma—and still do. Inland waterways thus play a predominant role in our national economy and will carry much of the life-blood of economic growth.

In statistical terms, the great rivers and their tributaries provide nearly 4,000 miles of commercially navigable waterways. In more detail:

> *The Irrawaddy* is open for 874 miles throughout the year and for another 105 miles during about seven months each year.
>
> *The Chindwin* is open eight months of the year from its mouth to Homalin, some 400 miles.
>
> *The Salween* is navigable commercially for only about 55 miles, but its main tributaries add approximately 170 miles.
>
> *The Sittang* is navigable for about 55 miles during three months of the year and for 25 miles throughout the year.
>
> *The Kaladan, Lemro, Mayu* and other rivers which, with their tributaries, constitute the river system of the Arakan coast, are navigable on tide for more than 400 miles.
>
> To these should be added the Rangoon River and its principal tributaries, which are short in length but probably carry the heaviest load of waterborne commerce in Burma; some 2,000 miles of waterways in the Irrawaddy Delta; and thousands of miles of rivers and streams which are not navigable by vessels of commercial size but which are used by the country craft that in many parts of Burma are the principal means of transport and travel.

In the economics of transportation, waterborne commerce should be the cheapest method of shipping bulky products over long distances. This is not the case in Burma today, and we must reduce the cost of riverine traffic if we are to take advantage of one of our greatest natural assets.

It is now estimated that within the first decade after the restoration of peace river commerce will increase 15% to 20% over the highest pre-war level, and perhaps even more as the plans for industrial development, which will be discussed later in this booklet, are transformed into reality.

Although detailed records are not available, it appears that before the war the Irrawaddy Flotilla Company and the Arakan Flotilla Company annually carried more than 8,200,000 passengers and more than 1,300,000 tons of cargo. The volume carried by private and contract carriers and country boats may make the actual total as much as three or four times those amounts.

Riverine transportation was badly smashed during the war. Out of more than 600 craft of all types and sizes of the pre-war fleet of the Irrawaddy Flotilla Company, only 106 could be salvaged and put into operation after the war. Other riverine fleets suffered similar damage.

As things stand now, there are 510 vessels back in operation, but some 300 of them are those received from the Military Directorate of Transport and, due to insurgency, operations are limited to daylight hours under limited military escort. Cargo traffic is no more than 60% of pre-war, and passenger traffic is less than half of what it was before the war. Yet our river transport system must be prepared within the next decade to handle one-fifth to one-fourth more traffic than at the pre-war peak.

To rehabilitate the inland waterways facilities, the Inland Water Transport Board is engaged in a 10-year programme of construction, as the first step of which a three-year interim goal has been established.

The new fleet will, of course, be more modern in every way and most of the new vessels will be powered by diesel engines rather than by steam. The I.W.T.B. is considering the adoption of the push–towing method on the Irrawaddy and Chindwin Rivers.

Among the major organizational changes contemplated for the improvement of riverine services is the consolidation of marine shipbuilding and repair facilities under a single administration.

## OCEAN SHIPPING

Due to the loss of many vessels during the war, and for other reasons, the regular steamer services of the pre-war period could not be re-established.

In June 1952, however, the President established the Union of Burma

Shipping Board and authorized it to operate shipping services along the coasts of Burma and between Burma and India. The Board promptly acquired and rebuilt the S.S. *Pyidawtha*, now operating on regular service between Rangoon and Akyab. Two additional new vessels of approximately the same size are now on order, one scheduled for the Rangoon–Akyab service, with possible extension to Chittagong, East Pakistan, and the other for service between Rangoon and Tenasserim, with possible extension to Penang. Both new vessels will be delivered in 1954.

The Board is also acquiring two steamers for the rice–coal trade with India. One of these is already in service, the other is to be delivered in 1954. Two more vessels may be added to this service in the near future.

## PORT AND WATERWAY CONSERVATION

Since the economy of Burma is affected materially by the operating efficiency of its seaport and waterways, it is apparent that channels must be kept in condition for safe and dependable navigation and efficient handling of commerce.

A plan has therefore been adopted for the replacement and improvement of the conservancy flotilla and other equipment, and for its efficient management and repair.

## HIGHWAYS

Highways were known in Burma as early as 200 B.C., when the Chins and the Chinese were working the amber mines near Mogaung, but it is only in recent times that they have been integrated into connecting routes and become an important part of the whole transport network.

Even now, after the dramatic increase in vehicles that came with the war, our highway system is in a very primitive state. This can be illustrated by comparing the number of miles of roads and streets per square mile of land area for various countries (see table at top of next page).

However, it should be pointed out that two of our main highways—Route I from Rangoon to Mandalay via Pegu and Toungoo, and Route II from Rangoon to Mandalay via Prome and Magwe—between them serve directly or secondarily nearly 85% of the urban population and more than

| Country | Miles of Roads and Streets per Square Mile of Land Area |
|---|---|
| United States | 1·12 |
| Ceylon | ·77 |
| Turkey | ·09 |
| Guatemala | ·08 |
| Burma | ·03 |
| Iraq | ·02 |

half of the total population of the country. Furthermore, 47% of the nation's sown acreage is in districts that lie on, or are tributary to, Routes I and II.

As for the number of persons per motor vehicle in the country, here are the figures for the same nations:

| Country | Total Motor Vehicles | Persons per Vehicle |
|---|---|---|
| United States | 49,161,700 | 3·1 |
| Ceylon | 49,284 | 153 |
| Guatemala | 12,754 | 291 |
| Iraq | 14,475 | 332 |
| Turkey | 26,985 | 728 |
| Burma | 25,050 | 800 |

To make matters worse, the highways that we have are in very poor condition because of the incessant attacks and abuses of war, the destruction by insurgency and dacoity, and inadequate maintenance for these and other reasons. And a very high percentage of vehicles now in use are very old and are wearing out rapidly. About half of all registered vehicles are in Rangoon, and some 45% are jeeps, weapons carriers, and military trucks.

This is to say that both our highway system and the number and quality of highway vehicles are seriously inadequate for efficient road-transport service.

Yet highway transport has the advantage of being able to operate in areas and provide services that cannot be maintained by railways and other modes of transport. It provides an important feeder system to bring goods to the waterways and railways. It is essential for access to mining areas. It can provide the farmer with rapid access to markets. Experience in other countries shows that highway transport increases with the growth of population and with the general level of economic activity, and sharp increase in highway transportation is an inevitable consequence of the planned growth of our economy.

The improvement and extension of our highway system, therefore, is an essential part of the Burma Development Plan. As a starter, the immediate goals are:

*Rehabilitation and relocation* of about 75 miles of the most damaged roads on Routes I and II, plus local improvements in five cities.

*Improvement* of about 145 miles of district roads in Mandalay, Magwe, and Pegu, plus local improvements in eight cities.

*Construction* of some 300 miles of farm-to-market roads.

*Construction* of a 50-mile highway from Loikaw to Pyinmana.

*Construction* of access roads to the Lough Keng and Pegu Projects and to three proposed dam sites.

The longer-term programme involves the complete rehabilitation of the entire Union Road System of 3,135 miles; improvement of the district road system of 6,750 miles; construction of more than 3,500 miles of farm-to-market roads to replace ox-tracks and mule paths; construction of some 1,400 miles of access roads, and repair or reconstruction of some 150 bridges damaged by the insurgents, plus major new bridge projects to inter-connect road systems otherwise isolated from each other by our rivers.

Such a programme cannot be undertaken by relying on hand methods of construction and maintenance. Mechanization of both building and repair methods will be essential if we are to succeed. This will require training programmes for supervisors and workers in the use of new machinery and techniques, as well as the development of local sources of building materials such as stone and cement. The amount of work to be done is so great that the present labour force now employed on road work can be kept busy for a long time to come.

A proposed system for an equitable sharing of costs between the Union

Government and the Districts and autonomous States is being worked out, and a new Highway Code is being prepared to regulate traffic on the highway system that will serve the New Burma.

## AIRWAYS

Air transport became of vital importance at the close of the war and during the worst period of the insurgency, when other transportation facilities were disrupted. Although the present system was born out of emergency it will remain and continue to grow as an important permanent part of the transportation system of the New Burma. Air service is a fast means of carrying passengers and freight over the length of the country; provides easy passage over the mountain ranges that inhibit East–West surface travel; and serves as a vital transport link between Burma and the rest of the world.

The present volume of traffic handled by the Union of Burma Airways is about 2·5 million passenger miles and 100,000 freight-ton miles per month. At present 65 scheduled services are maintained each week to 34 principal towns in Burma. Tri-weekly freight service to Mandalay is also operated. Plans for the development of civil aviation, to keep pace with the over-all economic development of the country and the requirements for international services, include:

*Completion of Mingaladon Airport at Rangoon* as a thoroughly modern international airport of the latest design with adequate up-to-date service and maintenance facilities for both commercial and military aircraft. In addition to UBA, eight other international lines bring a total of forty-three flights weekly into and out of Mingaladon, providing fast mail, passenger, and freight service between Burma and nearby countries as well as round the world.

*Reconstruction of the airports* at Mergui and Akyab and the addition of operations buildings; construction of a new airstrip at Homalin, plus extensions and improvements of runways and terminal facilities at many of the 34 airports now in operation in Burma.

*Improvements in the efficiency* of handling mail, passengers, and freight shipments.

*Extension of services* within Burma to areas now disrupted by insurgency

UNION OF BURMA AIRWAY

AIRWAYS SPEED TRANSPORT AND COMMUNICATIONS

and to other areas as the demand for air transport warrants. Consideration is being given to the establishment of a daily freight service between Rangoon and Mandalay.

*An increase in flying and service staff* of UBA and the replacement of non-national pilots with Burmans as they complete their training.

*Installation of beacons and radio equipment* at airports now lacking these traffic-control and safety devices. Despite a shortage of such equipment, UBA has established a notable safety record in the years since its formation, having flown more than 120 million passenger miles with only 11 fatalities.

*Expansion of training programmes* for both flying and maintenance personnel.

*Replacement of aircraft* as conditions warrant and as present equipment becomes obsolete.

# TELECOMMUNICATIONS

## THE PROGRAMME

RELIABLE, rapid, and inexpensive communication—for people and goods—by the various modes of transport discussed in the preceding chapter is essential to the material and cultural development of our society. This is equally true of communication by telephone, telegraph, and radio.

By no stretch of the imagination can our existing telecommunications facilities be considered as adequate for present needs, much less for the needs of an expanding economy and a rising tempo of national life. From the viewpoint of equipment, maintenance, and organization our present system is deplorable.

For example, not one of the fifty-three communities in Burma of over 10,000 population enjoys adequate telephone service. The following table compares the number of telephones per hundred people in Rangoon with other cities in the East:

| *City* | *Number of Telephones per* 100 *People* |
|---|---|
| Tokyo | 4·7 |
| Colombo | 3·5 |
| Manila | 1·42 |
| Delhi-New Delhi | 1·26 |
| Karachi | 1·08 |
| Djakarta | 1·06 |
| Rangoon | ·42 |

Neither government, nor industry, nor commerce can function with desirable effectiveness under present communication deficiencies.

There are several reasons for this situation:

During the war our telecommunications system was almost completely destroyed.

After restoration of services as good, or nearly as good, as those existing before the war, the insurgency proved almost as devastating as the war itself, and still causes serious gaps and frequent interruption of communication services; and the Burmanization of telephone, telegraph, and radio services also created temporary difficulties till new staff could be trained.

Here is a field in which it is abundantly clear that future requirements will bear practically no resemblance to past needs. Burma must set about the development of a modern communications system capable of handling efficiently the heavy burden of communications in a busy and expanding economy—within our larger cities, from one place to another within the nation, and between Burma and other countries. Admittedly the Government, overburdened with other tasks, has been slow to evolve a long-term plan to provide such services.

However, the Government now has under consideration a ten-year programme, phased so as to give priority attention to the most urgent requirements, that will provide the foundation and framework for a communications system that can serve and keep pace with an expanding New Burma. Details are still under study, but these are likely to be among the major projects:

*Installation* of an automatic telephone (dial) system in Rangoon.

*Expansion and modernization* of the telephone exchanges in Mandalay and other cities.

*Establishment* of a major overland telephone trunk system between Rangoon and Mandalay and Rangoon and Prome.

*Rehabilitation* of minor trunk lines.

*Development* of a microwave telephone-telegraph trunk system in the Irrawaddy Delta.

*Establishment* of an international radio telephone link.

*Modernization* of central telegraph facilities.

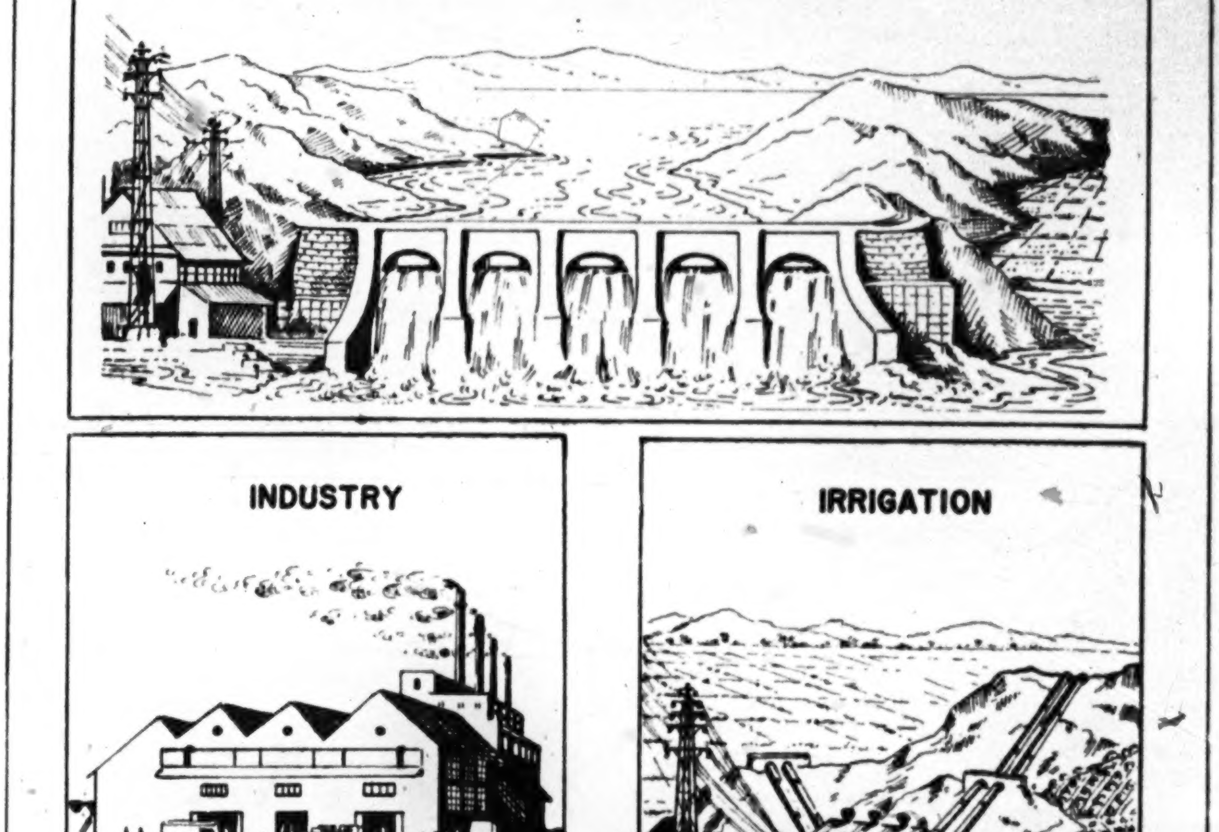
*An extensive telecommunications training programme* for supervisory, operating, maintenance, and repair staffs.

# HIGHLIGHTS OF THE POWER DEVELOPMENT PROGRAMME

Electric power is a central factor in the entire Development Programme. Fortunately, our topography is ideally suited for hydroelectric power development, and the highlights of our programme in this important field are the following:

> Power developments are being planned for multiple purposes—for industry, for irrigation, and for many municipal and household uses.
>
> Major projects for the immediate future involve three large hydroelectric generating plants near Pegu, at Saingdin Falls and at Balu Chaung and a generating plant at Kalewa.
>
> Many additional projects are planned for later development to provide adequate, cheap power for all purposes.
>
> Increases in supplies from improvements to existing installations will be brought to thirty-six smaller towns and villages.

## BENEFITS OF ELECTRIFICATION


INDUSTRY
IRRIGATION
HOUSEHOLD
COMMUNITY

# POWER DEVELOPMENT

## THE BACKGROUND

POWER is the energizing force of a modern economy—power to pump water, to run factories, to drive machines, to light cities and homes, to perform a thousand duties. Power saves labour, increases production, and liberates man from the status of a draught animal. The productive power of a nation can be gauged very quickly by finding out the horse-power of the machinery that each worker has "behind" him; and machinery is operated by power.

Power can come from several sources—principally from burning fuels like diesel oil and coal, and from harnessing the flow of water. Which source of power is the most economical for any given place depends upon many circumstances.

Prior to the war there were approximately 180 power plants in Burma—most of them small or moderate-sized diesel and steam installations, with no more than 10 hydroelectric plants. At least thirty of these were destroyed, and much work remains to be done to restore pre-war facilities and production.

Under present conditions it has been estimated that the demand for power will increase from 10% to 20% per year. As our Development Programme goes forward the demand for electric power will rise to many times the present level. In fact, there could be no real economic development programme unless we provide the power to make it run. We therefore have planned a rapid but practical development of power for the New Burma.

In this respect we are in a fortunate position. Our river valleys offer many favourable locations for the building of dams to store and control water and to harness its flow for the production of cheap power.

## THE PROGRAMME

For the next three or four years we have mapped out a programme to produce ample quantities of low-cost power for irrigation, for the new industrial era which will be described in a following chapter, and for many other purposes. The immediate programme of power development includes the following major projects:

**Pegu Hydroelectric Project.** The site of the proposed project is 40 miles upstream from Pegu on the Pegu River, just above the village of Taikkyi. The valley is narrow at this point, and a dam can be built to store water without flooding villages or rice lands.

The main objective of this project is to supply low-cost power to the Rangoon-Henzada area, in which are living some 3,000,000 people. It is estimated that, despite the present high cost of electricity, the demand in this area is increasing at a rate of more than 30% per year.

Power from this project will serve the new tile factory, sawmills, and soap factory, as well as the Government Cotton Spinning and Weaving Factory, the ice plants, flour mills, match factory, hosiery works, rubber works, broadcasting station, railway shops, the General Hospital, the University, and other users at Rangoon; it will provide lighting at Pegu, Tharawaddy-Thonze, Letpadan, and Henzada; and serve the new ice plants, bottling works, and sawmills at Pegu and Henzada.

The project will have other important advantages besides the production of power, for it will provide flood control and regulation for purposes of irrigation, navigation, and sanitation in the Pegu District.

Construction is scheduled to start soon with the production of power coming in two stages—the first 15,000 kilowatts in 1957, and an additional 15,000 kilowatts in 1959.

The Pegu Project ultimately will be incorporated in a more extensive power system by connection with a later development on the Paunglaung River. In the meantime it will function efficiently to serve the fast-growing Rangoon power market, with supplemental benefits to Pegu, Henzada, and other communities in the area. It is expected to reduce rates for electricity in Rangoon to less than half the present price.

**Balu Chaung Power Project.** The site of this project is on the Balu Chaung, near Loikaw, in the Kayah State. Power from this development will be transmitted as far south as Rangoon, since the Pegu hydroelectric project alone is not expected to meet the growing needs of the metropolitan area. In addition the development will provide adquate power:

*To Mandalay*, with its important manufacturing and railway facilities, and which now suffers from a shortage of power despite the installation of additional units in 1952.

*To Kayah State.*

*To Southern Shan State.*

*To the mining developments* near Taunggyi.

*To the large army headquarters* at Meiktila.

*To the proposed Yamethin irrigation development* southeast of Meiktila.

*To the proposed heavy industry development* at Myingyan, which is described in a later chapter.

*To smaller communities* along the proposed transmission lines.

It is expected that the initial capacity of this project will be 84,000 kilowatts and that ultimately its capacity can be raised to about 250,000 kilowatts. It will thus become the most important single source of power in all Burma.

This project is being given high priority. According to present plans, it will start to deliver power late in 1956 or early 1957.

**Saingdin Falls Project.** The site of this proposed development is at Saingdin Falls on the Saingdin River about 50 miles north of Akyab and 10 miles east of Buthidaung. The falls are 6 miles upstream from the junction of the Saingdin and Mayu Rivers. The site is especially favoured by the existence of a natural storage basin 35 miles long capable of storing enough water to irrigate the area through a drought extending over a period of several years.

The aim of this project is to supply low-cost hydroelectric power for domestic and industrial use in an area which is now predominantly agricultural, but which is capable of substantial industrial development.

Beneficiaries of the new power supply will include the Government-sponsored pulp and paper factory, brick and roof-tile plants, and chemical plants, proposed for the Akyab area under the industrial development programme. It also will supply electricity for homes, for irrigation by pumping during the dry season, and for household water supply.

In addition, the Saingdin Reservoir will provide a large year-round supply of clear water for domestic, industrial, or irrigation uses.

Minor flood control and navigation benefits also will be realized.

The area to be served totals about 8,000 square miles and has a population of roughly 1,000,000.

It is hoped that the plant will be in operation by the end of 1957 in time to supply power to the new pulp and paper factory.

**Kalewa Mine Power Project.** To provide power for the proposed coal mine at Kalewa and for surrounding communities, a generating plant will be built at the mine site. In addition to Mine City, the plant would serve Kalemyo, Zinaung, Kalewa, Mawlaik, and the rural area through which the transmission lines will pass. The population of the area directly benefited is now about 50,000 and is expected to grow to 80,000 in the next twelve years or so.

These four projects alone—the Pegu, BaluChaung; Saingdin Falls, and Kalewa developments—will bring new supplies of low-cost power to areas in which one-third of our whole population is living.

In addition, the Electricity Supply Board is engaged in a three-year programme to install diesel and small hydro plants in 36 towns, including six in the Shan State.

Looking farther ahead, plans are being made for a hydroelectric station on the Paunglaung River near Pyinmana as part of the Yamethin comprehensive irrigation development. In addition to providing cheap power for irrigation pumping, this project will furnish power to the upper Sittang Valley and along the Irrawaddy from Pakokku to Bassein. Present plans call for completion of this project by 1960.

Other possible power projects under consideration for later development are:

*On the Baugata* near Kyaukkyi.
*On the Lampha* near Moulmein.
*On the Namtu River.*

*At the Mu River dams and canal*, in connection with the Mu River Irrigation Project.

*Expansion of existing plants* at Namhsan Falls, Namtu, Hpaungdaw, Tavoy, and Mogok.

Transmission system to distribute the new power will, of course, have to be built in conjunction with the generating plants.

# MINERALS

## THE BACKGROUND

SOME fifty minerals are known to exist in Burma, and prior to the war minerals provided nearly one-third of all our earnings from exports. The most important known deposits are of tin, tungsten, lead-silver, and petroleum. There is little question that antimony, manganese, and zinc exist in sufficient quantities for commercial development, nor that Burma's mineral resources in general are greatly underexplored and underdeveloped.

With the extremely limited and superficial exploration carried out to date, there is a high probability that the orderly development of Burma's mineral resources can provide, in a relatively short time, a large measure of the wealth needed to establish other industries and to help raise the standard of living. In fact, there is substantial evidence that in time Burma can become one of the world's leading producers of base metals.

To help achieve this promise, the Government organized in 1952 the Mineral Resources Development Corporation, which has established regional offices to explore such possibilities as lead-silver mining in the Kachin State; antimony, manganese, and phosphate-rock mining in the Shan State region; tin and tungsten mining in the Tenasserim Divisions; and many other promising indications of large deposits of good-quality minerals. The Corporation also will finance and direct the development of proved deposits.

## THE PROGRAMME

The development of our mineral wealth will contribute greatly to economic expansion in Burma, but the insurgency has obstructed seriously both the restoration of pre-war production and investigation of additional mining possibilities.

Exploration and testing of the quality of ores therefore remains a major problem for the future and will constitute an important activity in the Development Programme. In their present state, our plans for mineral development include the following projects:

**The Kalewa Coal Project.** Burma has never produced solid fuel; we have imported all of our coal requirements, principally from India. Near Kalewa are coal seams capable of supplying most of our needs and providing fuel and power for the development of a major industrial area in Central Burma. We propose, as a matter of high priority, to establish at Kalewa a coal-mining operation capable of producing 750,000 tons of coal per year and employing 1,500 workers. Four years will be required to complete the project.

There are three important reasons for undertaking this development:

> The protection that will be afforded our national economy by domestic control of our own fuel supplies.
>
> The saving of over K2·22 million annually in foreign exchange by elimination or reduction of coal imports.
>
> The stimulus that will be provided to the development of an industrial centre in Middle Burma. Such industries would, in some cases, be uneconomic without a nearby source of solid fuel, and the Kalewa coal-mining project therefore is central to the industrial proposals that will be described later.

**The Zinc Mining, Smelting, and Refining Project.** The product of our zinc mines has, in the past, been shipped abroad in the form of ore. Construction of a plant within Burma to reduce zinc-bearing ores to zinc metal is being considered in order to determine its economic feasibility and desirability. The project for development of a zinc and zinc-products industry at Myingyan that is now being studied would include the following steps:

*Construction of a modern plant at Myingyan* to produce 50,000,000 pounds of zinc slabs annually.

*Increasing the production of zinc ore from the Bawdwin mine near Lashio and expansion of the concentrator at Namtu,* which has been partly reconstructed after destruction during the war. The Bawdwin mine is one of the richest lead-zinc-silver mines in the world.

*Equipment of the Shwedaung zinc mine,* about 30 miles east of Taunggyi in the Southern Shan State, for economical surface mining of zinc.

*Development of the Lough Keng zinc deposit at Taunggyi.* Metallurgical tests, economic studies, and other preparatory work must be completed before a final decision is made on this project. If it is carried out it will, like other major products in our Development Programme, require the construction of living-quarters for workers, roads, water connections, a school, a hospital, transport, storage, and other supporting facilities.

**Petroleum.** Our petroleum industry, which before the war supplied our own needs and employed large numbers of men, now lies semi-prostrate—not yet recovered from the wounds of war. Instead of selling surplus oil abroad for foreign exchange, we now spend large amounts to import foreign-produced oil. This, of course, must be rectified.

As a first step, the Government has now entered into a joint venture with the major oil companies, with the object of insuring that the nation's oil resources will be exploited for the benefit of all the people.

Our plans for the physical restoration of this industry include the following principal elements:

*Completion of a new distillation plant at Chauk*, the only oil-field in Burma now in production.

*Acquisition of additional tugs and barges*, to transport the production from Chauk; delivery of these is expected early in 1955.

*Reopening and eventual expansion of the topping plant at Chauk*, which is now shut down for lack of transport.

*Restoration of production of Yenangyaung*, the second largest producing field before the war, as soon as possible after the area has been cleared of insurgents.

*Exploration for additional oil resources at Chauk, Yenangyaung, and in the Delta* prior to a decision as to whether to re-open the refinery at Syriam.

If extensive oil deposits are discovered in the Delta, our economy will be strengthened by the development of a profitable export trade. But even if it is not, the known reserves in the Upper Fields are sufficient to fulfil all of Burma's expanding needs for petroleum products for at least 25 years, with a diminishing production for another period of 10 more years.

For the future development of our promising mineral resources, the Government is preparing an extensive programme of methodical exploration, testing and development throughout the nation, beginning with the areas where minerals are already known to exist.

# HIGHLIGHTS OF THE INDUSTRIAL DEVELOPMENT PROGRAMME

ONE of the principal features of the economic evolution of Burma will be the growth of modern industry. These are the highlights of our plans for industrialization under the Development Programme:

> The planned growth of industry is designed to develop three major manufacturing centres—one in the area surrounding Rangoon, another in the Myingyan area, and a third in the Akyab region.
>
> A total of forty-five projects has been scheduled tentatively for these three areas.
>
> The plan is divided into three stages, the first two of which are scheduled for completion within the next ten years.
>
> Priority will be placed on the development of industries to supply construction materials for the Development Programme and other primary products that are basic to further growth of the economic life of the nation.

# INDUSTRIAL DEVELOPMENT

## THE BACKGROUND

THE manufacture of goods in factories using power machinery to turn out products at a low cost per unit is one of the principal bases for economic prosperity and rising standards of living.

It is true that the early period of industralization in the West was accompanied by exploitation of workers, and that it brought a long train of social evils in its wake. But this was due to the selfishness and shortsightedness of men, rather than to anything inherent in the industrial system. In nations whose political systems are dominated by an enlightened social conscience, advancing industrialization has brought high wages, shorter hours, greater economic security, more leisure, and broader opportunity for education and cultural development.

Manufacturing industry in Burma is in a very early stage. Much of it is confined to small scale cottage industries, producing a narrow range of products by crude methods and with very little modern machinery.

There is no complete list of existing industries in Burma today. However, it may be assumed that the list compiled by the Labour Directorate in 1951 includes all industrial facilities of any importance. These statistics show:

| | |
|---|---|
| 882 | rice mills |
| 194 | saw mills |
| 110 | sesamum and groundnut oil-extraction plants |
| 80 | flour mills |
| 67 | cotton ginning and spinning mills |
| 16 | beverage plants |
| 3 | sugar extraction and refining plants |
| 3 | match factories |

2 small glassware plants
1 cement plant, 1 starch plant, and some miscellaneous facilities for the manufacture of tobacco, rope, rubber products, and other small industries.

Many of these are so small that they may be classed as cottage industries; others are obsolete, inefficient, and high-cost producers.

About 43,000 permanent employees out of a labour force of more than 8,000,000 are believed to be employed in the manufacturing plants reporting to the Labour Directorate, and not more than 10% of the working population is engaged in all industry, including very small operations.

Only in rice milling, and a few other instances, is the existing capacity sufficient to supply the current needs of the nation. Even for such basic commodities as roofing, floor tile, and other building materials, fertilizers, paints, paper, bags, insecticides, glass products, and processed foods, we do not have modern manufacturing facilities.

Under any circumstances Burma should manufacture most of such products in sufficient quantities to satisfy the needs of the population. But the normal growth in population alone will create an expanding need for these and other things. Furthermore, the Development Programme will stimulate tremendous demands for all basic construction materials, and increased employment at better wages will stimulate additional demands for goods which we cannot now provide from existing industry capacity.

The low state of industry may be regretted from some points of view, but it has an advantage, too, for it means that we can now benefit from more than a century of painful technological progress in other countries, borrowing the latest developments and adapting them to our own requirements. It also means that we can learn from the experience of other lands how to avoid the social upheavals that characterized the infancy of industrialization elsewhere.

There is no doubt that a substantial programme of industrial development is needed urgently in Burma to create employment for our growing population, to reduce our dependency on other countries for goods that can be produced economically in our own country, to make larger quantities of more varied products available to our people at reasonable prices, and to strengthen our national defence. Steady industrialization is essential to the realization of our vision of the New Burma.

It is particularly fortunate that our foreign-exchange position makes it possible for us to purchase from abroad the machinery and equipment that are needed for rapid industrialization. Furthermore, many of the natural resources of Burma can be manufactured into products for which there is a world-wide demand, and we have the possibility of earning foreign exchange through the export of goods manufactured in excess of our own needs.

But there is a tendency on the part of many people in underdeveloped countries to rush headlong into ambitious schemes for rapid and extensive industrialization without adequate study or preparation. An exuberant spirit of nationalism plus an understandable impatience to make up for lost time can lead to impractical and even disastrous proposals. If we should try to go too fast, we might stumble. If we tried to go too far, we might defeat our own purposes by building uneconomic industries which would burden rather than benefit our own people.

These mistakes we shall not make. Industrialization is inevitably a gradual process in which industries grow in logical relationship to other industries with which they are interdependent; and in relation to the availability of raw materials, labour, management, power, transport, and capital. And in Burma, the development of industry must be accompanied by adequate arrangements for the housing, health, educational, and other needs of the new workers, many of whom ultimately will move from the countryside to the towns to work in factories.

With these necessary qualifications, however, our Development Programme includes substantial and rapid progress in the field of industry.

## THE PROGRAMME

After several years of intensive study and survey work, and with the advice of a large staff of qualified consultants, the Government has adopted a basic but flexible blueprint for the long-term industrial development of the New Burma.

From all points of view—economic and social—it has been determined to launch a programme for the development of three major industrial centres at or near:

Akyab
Myingyan
Rangoon

All in all, some 45 major projects have been studied and tentatively recommended for these three centres. Some of them are included only for future consideration. Others are directly dependent on the development of still other projects to provide fuel, power, and raw materials. The Master Plan, therefore, has been divided into three parts:

*Phase One*, which comprises those industries most urgently needed or which will provide basic products needed to start other industries. Completion of Phase One will require between four and five years of intensive development.

*Phase Two*, which comprises those industries which should be established as soon as possible after the completion of Phase One industries. Although some of these should be started before the end of Phase One, their completion generally would fall in a second five-year period.

*Phase Three*, which comprises a series of expansions in industries completed during Phase One and Phase Two, plus the addition of new industries. Planning for this period, for which there is no purpose in setting a time limit, is open and flexible. New industries proposed for establishment in this period will be the subject of continuing study during the earlier stages.

To give the people of Burma an over-all view of our plans for future industrial development, the following pages will describe the far-reaching programmes foreseen for those three industrial centres.

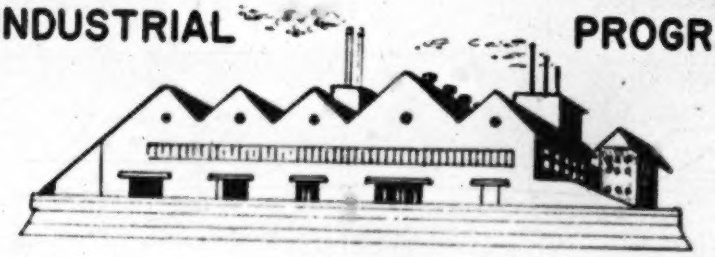
## THE AKYAB INDUSTRIAL DEVELOPMENT SCHEME

Akyab is the seaport, industrial, and distribution centre for the western coastal area and the north-western part of Burma. It is to those regions of Burma what Rangoon is to the Delta and Central region of the country.

Cheap electric power will become available to Akyab from the Saingdin Falls power development.

Excellent harbour facilities in the deep Kaladan River mean that ocean-

# THE INDUSTRIAL PROGRAMME



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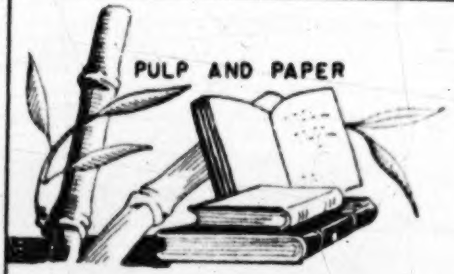

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MEDICINE

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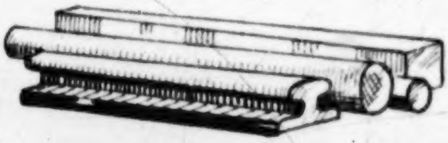
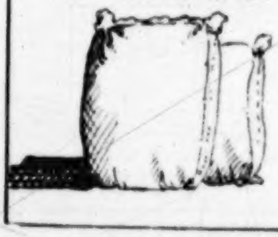


ELECTRIC INSULATION TYRES

JUTE BAGS



BRICK AND TILE

AND MANY OTHERS

going vessels can bring in easily needed raw materials and take away manufactured products.

Water is available in abundance.

There is an adequate supply of labour in the area to man the proposed factories.

All these factors were influential in the decision to locate a pulp factory at Ponnagyun, 13 miles above Akyab on the west bank of the Kaladan River. And that decision became, in turn, an added reason for locating related and supporting industries in the same area, particularly since the raw materials for the whole industrial group that is projected are located within reasonable shipping distances by water.

Six projects are now under consideration for the Akyab industrial development scheme. They are:

*A Bamboo Pulp and Paper Factory.* Except for a small amount of hand-made paper, Burma imports at high prices all the paper and paper products consumed in the country.

Consumption of paper at the present time is some 7,600 tons annually, and it is estimated conservatively that requirements will increase to over 9,000 tons by 1960.

We have vast reserves of bamboo which can be harvested efficiently by mechanical equipment, which replaces itself by normal growth in eight years, and which can be manufactured into several types of high-grade paper.

We therefore propose to establish at Ponnagyun, 13 miles up the Kaladan from Akyab, a modern pulp and paper mill with an annual capacity of 30,000 tons, of which 10,000 would be converted into paper to supply the domestic market and the other 20,000 tons exported.

This factory will be of considerable benefit to the Akyab area and to the nation as a whole. When in full production it will provide permanent employment to about 1,500 mill workers and additional employment to approximately 2,500 forest workers and raftsmen for about seven months of the year.

It is hoped that the plant will be completed and in operation in 1956.

*A Lime Plant.* Operation of the pulp and paper mill at Ponnagyun will require about 1,500 long tons of lime per year. We therefore are considering the establishment of a lime plant adjacent to the paper mill to supply its needs and other requirements. About eighteen months would be required to complete the plant.

*A Limestone Plant.* Deposits of limestone, the raw material for the production of lime, are known to exist on Ramree Island, on Cheduba Island, and on Ye Island, and near Sandoway on the mainland. These are being studied for the best location of a single plant to crush and screen enough limestone to supply the proposed lime factory plus a similar quantity for other uses.

*A Modern Saltern.* All the elements necessary for low-cost production of large quantities of high-grade salt are present in Burma: a long coastline, a five-month dry season, and plenty of marginal land.

Modern technology in the field of salt-making has improved to the point where salt is now one of the cheapest basic commodities in most countries, yet the price in Burma of imported high-grade table salt is well beyond the reach of most families. We therefore propose to establish modern salterns for the mass production of several grades of industrial and table salts and the construction of a refining plant in the Akyab area. These projects are in addition to the enlargement of the existing saltern in the Ganga district and a general programme of instructing present saltern operators in improved methods of salt production.

*A Calcium-carbide Plant.* Calcium carbide is the source of acetylene gas, which is needed in every garage, every ship, and in every factory for heating and cutting metals. None is manufactured in Burma today and all that we use is imported. Yet with electric power available it can be made easily from raw materials that are found in abundance in our country—limestone and charcoal. We are therefore considering establishment of a calcium-carbide plant with an annual capacity of 3,000 long tons in the Akyab area—not only because the raw materials and electric power will be available, but because it will be interdependent with other chemical plants projected for this industrial centre.

The calcium carbide produced could provide the base raw material for the manufacture of vinyl acetate and vinyl chloride—important substitutes for leather in a tropical climate like ours—which can be manufactured into many consumer goods such as belts, suspenders, handbags, and so forth. We therefore are studying the advisability of manufacturing vinyl products in the Akyab area.

*A Caustic-soda and Chlorine Plant.* This is a necessary adjunct to the pulp and paper mill to supply it with chlorine, and we propose to locate this plant adjacent to the paper mill. It will, however, have other important benefits by producing caustic soda for the manufacture of increasing quantities of soap, and chlorine for insecticides and disinfectants, much needed for the health of our people and the protection of our crops.

## THE MYINGYAN INDUSTRIAL DEVELOPMENT SCHEME

The Myingyan area is used broadly in this report to cover a considerable part of central Burma surrounding the confluence of the Irrawaddy and Chindwin Rivers.

Principal reason for the development of an industrial centre in this area is its convenient location between coal deposits at Kalewa, which can provide cheap fuel and power, and the Shan Hills and Kachin mineral areas. In addition to water transportation, Myingyan is connected by railroad to Mandalay to the north, Rangoon to the south, Lashio to the northeast, and the Southern Shan State to the southeast.

Development of industry in this vicinity will, of course, directly benefit all of Central Burma and the nation as a whole.

The key to industrial development in this area is Kalewa coal. This coal and the power from the Balu Chaung project will make feasible the zinc smelting and refining plant previously discussed, and this, in its turn, might make it economical to develop the zinc deposits at Lough Keng. All these projects are parts of the Industrial Development Programme for the Myingyan area. In addition, the programme includes the following projects:

*A Sulphuric Acid Plant.* Sulphuric acid is the leading chemical in the world today, being used in the manufacture of fertilizers, pharmaceuticals, insecticides, paints and pigments, dyes and many other products and processes. Before the war, the Burmah Oil Company had two sulphuric acid plants whose product was used exclusively in oil refining. Both plants were almost totally destroyed and dismantled during the war. At present, there is one small, newly created private plant in the Rangoon area.

At the present time, therefore, almost all our requirements of sulphuric acid must be imported at excessively high cost because of the special handling precautions required for its shipment.

Because of its importance to the agricultural programme for the manufacture of fertilizer and in laying the foundation for modern industry, we have drawn up tentative plans for a sulphuric acid plant at Myingyan.

*A Fertilizer Plant.* The importance of fertilizer to food production has already been mentioned in the section dealing with the Agricultural Development Programme. For many years our soil has lacked the chemicals, especially nitrogen, essential to healthy plant growth. A progressive expansion in the use of fertilizer is now essential to prevent the further depletion of soils and the further reduction in yields per acre of many crops, especially rice.

We therefore propose, as a priority project, the construction of facilities at Myingyan for the manufacture of ammonia, urea, ammonium sulphate, superphosphates, and mixed fertilizers. The sulphuric acid plant previously described also would, if constructed, become a part of this group of facilities. Its operation would be dependent upon Kalewa coal and electricity from the hydroelectric power project at Balu Chaung.

These factories, although large undertakings, would supply only 10% of the estimated potential need for fertilizer in Burma. Yet it has been calculated that the fertilizer produced could result in an increased yield equivalent to 300 pounds of polished rice per acre for 3,500,000 acres of paddy land.

*A Lime Plant.* Lime for plaster is already widely used in Burma for both exterior and interior purposes in building construction. As construction increases and the use of cement rises, there will be a sharp increase in demand for lime. But, since the output of the plant proposed for Akyab will be consumed in that area, we plan to provide additional capacity by adding equipment to the existing cement plant at Thayetmyo, between Myingyan and Rangoon.

*A Limestone Plant.* Limestone is known to exist in both mountain ranges forming the east and west rims of the great central basin of Burma, and some has been found near Myingyan. It will be required in increasing quantities for construction, for railroad ballast, highway metal, and for processing into lime. A crushing plant, therefore, will be provided to serve the new Myingyan industrial area.

*A Cement Plant.* The existing cement plant at Thayetmyo now produces approximately 60,000 tons per year.

As our Development Programme progresses we shall need much larger quantities. For example, just the first three dams proposed under the Power Development Programme would require a minimum 80,000 tons of cement—the entire production of the Thayetmyo plant for almost a year and a half. As another example, more than 240,000 houses of the non-basha type will be required during the next eight years. Even if a minimum amount of cement is used in their construction, they would require 120,000 tons. Highways, culverts, bridges, docks, airports, public and private buildings, and industrial plants will require even greater quantities of this basic material.

We are estimating conservatively that annual requirements for cement will be at least 120,000 tons by 1960—twice the present capacity.

One way in which to acquire the additional capacity needed would be by expanding the plant at Thayetmyo. The Government is considering plans to nationalize the Burma Cement Company and to double its capacity. As an alternative to expanding Thayetmyo, construction of a cement plant at Rangoon, which absorbs perhaps three-quarters of the cement used in Burma, is being considered. Many factors must be appraised in determining the relative economic advantages of the two locations. In any event, the cement-producing facilities at Thayetmyo will remain part of the industrial complex of Central Burma with its centre at Myingyan.

*Natural Gas Products.* If the production of natural gas by petroleum companies in Burma reaches a higher level, it may become practical to manufacture carbon black, an essential product in the production of rubber tyres and paint. In this event, it would be logical to erect the carbon-black plant in the Myingyan area.

*Gypsum and Gypsum Products.* Gypsum would provide an important source of raw material for the manufacture of sulphuric acid for the proposed fertilizer plant at Myingyan. It also could be used to manufacture construction materials, such as wall board, partition blocks, shingles, gypsum plaster, and plaster of Paris. Thus this mineral is important to the economy of Burma.

Gypsum has been found in the Myingyan area. The known deposits extend north from Thayetmyo to Chauk, on both sides of the Irrawaddy River. Crude gypsum, used by the cement plant at Thayetmyo, is produced near Yenangyaung, and the mineral is known to exist in the Magwe area. None of these deposits, however, provide an adequate source for a gypsum and gypsum-products industry. An extensive exploration programme, therefore, will be carried out in an effort to find deposits capable of supporting such an industry in the Myingyan region.

The restoration and expansion of operations in the Chauk oilfields, described previously, also should be considered as part of the scheme for the development of an industrial centre in the Myingyan area.

## THE GREATER RANGOON INDUSTRIAL DEVELOPMENT SCHEME

Rangoon is the terminal of ocean vessel routes, of river transportation routes, of the railway system, of the highway system, and of the air transport system of Burma. Agricultural and other products move to market through Rangoon. There many of them are processed for both the domestic and the foreign markets. Rangoon is, therefore, the banking, commercial, importing, exporting, manufacturing, and distribution centre of the nation, in addition to being the seat of government.

All these reasons dictate the selection of the Rangoon area for an important part of the Industrial Development Programme of Burma. The projects proposed, however, are not limited to the city of Rangoon itself but will be located in a wide surrounding region which will be referred to as the Greater Rangoon Industrial Area. Principal industrialization projects in our present plans for this area are discussed briefly below:

**Steel-products Plant.** One of the basic steps of the entire industrialization programme is the decision to build a steel-products plant in the Rangoon area. At the present time we import some 40,000 tons of steel products at a heavy cost in foreign exchange. And within the next years our requirements may increase by three or four times.

Although no iron-ore deposits are known to exist in Burma, our use of steel warrants the construction of a plant to manufacture the lighter steel products—such as bars, rods, sheets, wire, nails, etc.—from scrap iron available in the country.

Our present plan calls for a plant with a capacity of approximately 20,000 tons per year, to be completed within the next three years, and which will pay about 500 workers more than K11 million in annual wages.

**Pharmaceuticals and Drugs.** Another industry of a basic nature, and of special social significance, will be started in Rangoon with the construction of facilities to manufacture bulk pharmaceuticals, biologicals, vitamins, yeast, penicillin, nicotinic acid, milk substitute, and foods for infants. In the beginning, the plant will manufacture only those items required by the Government in its various public health activities. Eventually the plant could supply the total needs of Burma for biological vaccines, antibiotics, and sulpha drugs. At the present time all pharmaceuticals and drugs used in Burma have to be imported, and cost us annually approximately K20 million. A contract has been concluded with a British firm to build and manage these facilities for the Government.

The proposed plant will consist of self-contained departments housed in separate buildings, and will require about three years to get into operation.

Some of the necessary raw materials are already available; others can be converted from products that are available; and still others will be produced by other industries that are part of the industrialization programme.

**Construction Materials.** The heavy demand for construction materials, to carry out the Economic Programme and to support a rising level of economic activity, will multiply our use of building materials of all kinds by three or four times within the next six years. The industrialization scheme for the Greater Rangoon Area therefore includes a number of projects to begin or expand domestic manufacture of these materials. These projects include:

*Timber and Timber Products.* This is a major project to improve and expand our sawmilling capacity and to establish an integrated group of modern wood-products industries. Parts of this programme have already been begun and other parts will be added to the industrial group during later stages of the programme. Principal components of the scheme are:

*Expansion of Sawmill Capacity.* This will include improvement in the efficiency of existing government mills through the addition and rearrangement of equipment; expansion in the capacity of certain other mills; completion of the State Timber Board's Sawmill No. 3 at Rangoon; and the construction within the next few years of one or more new modern mills as the nucleus of an integrated forest-products industry.

*Woodworking Factory.* Adjacent to the site of the projected new sawmill we propose to build in the immediate future a woodworking plant to produce such things as doors, windows, frames, finishing lumber, and other types of woodwork to expedite the housing programme and to lower building costs.

*Plywood and Veneer Plant.* Also adjacent to the sawmill site, and also scheduled for early construction, is a plant to manufacture plywood for doors, interior partitions, panelling, tea chests, and other uses, and veneer for use in baskets, boxes, and similar products. Plywood is one of the most versatile building materials developed in recent years. Using Taungthayet, Kanyin, and other woods that grow in abundance in Burma, we can manufacture better-quality plywood at less cost than the imported product we have used to date.

*Furniture Factory.* As part of the wood-products industrial group at Rangoon we are considering a small factory for the production of household, office, restaurant, store, hotel, public building, hospital, and professional furniture. Present plans call for this factory to be built during Phase Two of the Industrial Development Programme.

*Wood Distillation Plant.* Also scheduled for consideration in Phase Two construction is a wood-distillation plant to produce charcoal and a variety of by-product chemicals that will be required as Burma's industrialization moves forward.

*Wallboard Plant.* Since wallboard for the construction of ceilings, partitions, and many other purposes can be manufactured from wood waste in the form of sawdust, shavings, and slabs, and from bagasse and other vegetable wastes, it is planned at a later stage to add a wallboard plant to the forest-products group of industries.

*Tannin and Cutch Extraction Plants.* Finally, it is contemplated that we shall add to the group plants for the extraction of tannin from the bark of trees from the coastal swamps and cutch from the bark of trees from dry forests. Tannin is used for tanning leather and cutch for the preservation of fishing lines and salt-water nets.

All in all, this group of industries, which will be located along the river in Rangoon, will provide employment for about 2,500 workers of all categories.

*Clay and Shale Products.* Our programme for building 24,000 non-basha-type houses, plus factories and public and private buildings of all sorts, will require tremendous quantities of bricks and roofing tiles. The rebuilding of the Pagoda at Pegu alone has required millions of bricks; so will many of the factory buildings projected in the Development Programme. Clays suitable for the manufacture of clay products are found in abundance in Burma, yet we import all of our roofing tile and do not have a single modern brick plant in operation.

The Government of Burma has taken the first step to establish a modern clay-products industry by arranging for the construction of a factory near Rangoon to produce 6,000,000 roofing tiles and 4,000,000 building bricks per year. This is only a starter, and we plan eventually to have such plants in the vicinity of each of the larger cities and towns. In addition to bricks and roofing tiles, these plants later can be expanded to produce other products such as light-weight building aggregates, clay drain tile, hollow building tile, and many other clay products.

*Glass-products Plant.* Another material that we shall need in greatly increased quantities is glass. We therefore are considering the development of a national glass-products industry. Deposits of sand suitable for use in the manufacture of glass have been located in the Mergui District and most of the other materials are, or will be, available. The first factory would be established in Rangoon, probably during Phase Two of the Industrial Development Programme, to manufacture flat glass and glass bottles.

*Pre-cast Concrete and Asbestos-cement Products.* The first of a series of small plants will be constructed in the Rangoon area to manufacture blocks, bricks, and a variety of building units moulded of concrete. As these products will be needed in many areas, we foresee an eventual need of perhaps as many as twenty or thirty such plants scattered throughout the larger cities and towns of the country. The first plant will be built during Phase One of the programme.

Still another plant to supply construction materials is proposed for the immediate future in Rangoon: an asbestos-cement products plant to manufacture cement roofing, siding, interior wall and ceiling sheets, and two types of cement pipe for water and sewage lines, drainage and irrigation systems, and for road construction work.

*Other Building Materials.* Finally, the increase in construction activity in the Rangoon area will stimulate expansion of production of other materials—

cement, lime, and limestone products—previously discussed in connection with the Myingyan and Akyab industrialization schemes, and for excavating and processing sand and gravel. We also intend to install facilities in the Rangoon area for the preparation and delivery of ready-mixed concrete to construction projects.

**Food and Food Processing.** As we look forward to higher standards of living we must provide facilities for the processing and preservation of foods that will improve the diet of Burmans. In this category of development, the following projects are scheduled for the Rangoon Area:

*Vegetable Oils.* Almost every Burman should know that our diet is deficient in fats and oils. Yet edible oil can easily be extracted as a by-product from the bran of our greatest crop—rice. Burma could absorb the output of 10 rice-bran oil processing plants, each with a capacity of some 15 tons of oil per day. As a first step in a programme to improve the diet, eliminate heavy expenditures for imported oils, and provide employment, we propose to construct—as part of Phase One of the Industrial Development Programme—the first rice-bran processing plant in the Rangoon area. The next step will be to build two more plants in other locations. Eventually the entire nation will benefit as additional plants are added to meet the requirements of all major markets.

*Soya Products.* One of the projects of Phase One of the Industrial Development Programme is a factory to produce a milk substitute called Soyalac from soya beans. This will provide an additional market for a farm product which can be grown successfully and profitably in Burma; reduce the import of milk products; improve our diet; and add to the national income and employment. The initial plant will have a daily capacity of 20,000 quarts of Soyalac per day. Sufficient acreage of soya beans to support the plant can be developed during the period of its construction.

*Sugar.* Soil and climatic conditions of Burma are favourable for sugar-cane growing. Yet we—like other people in Southeast Asia—pay high prices for imported white sugar, or accept inferior grades of domestic sugar, or go without. To remedy this situation we propose to establish a modern system of relatively small mills located near the principal growing areas to crush and process sugar-cane into raw sugar during the harvesting season, plus a large refinery to further process the raw sugar to high-quality standards and to produce molasses as a by-product for the manufacture of alcohol. Areas most suitable for sugar-cane production are dispersed among the Myitkyina, Kyaukse, Yamethin, Pegu, and Toungoo areas, and it can be assumed that the crushing mills will be located in those areas. Because of its central position for distribution, Rangoon will be the site of the refinery. It is hoped that the refinery will go into operation during Phase One of the Industrial Development Programme. It will produce 200,000 pounds of refined, granulated sugar per day—enough to eliminate the need for the bulk of our present imports.

The increase in sugar-cane production will open up another interesting industrial possibility—the use of bagasse (sugar-cane stalks after the juice has been extracted) for pulp and paper making.

*Rice Milling.* Rice is our most important crop and our greatest source of foreign exchange; modern and efficient rice mills therefore must be considered an essential element of Burma industry. After intensive study of milling equipment and methods throughout the country, we have launched a long-term programme to decrease losses through breakage, improve the production and recovery of by-products, improve and standardize the quality of all varieties, and enrich the food value of polished rice. About half of our mills can be modernized with small investments in new equipment; the other half are obsolete and modernization would be impractical. As a pilot project the Government is establishing a model rice mill to demonstrate the most efficient methods of milling, and it is expected that it will be in operation in the near future.

*Dairy Products.* There is no reason why Burma cannot produce her entire requirements of milk and dairy products. As the first step in this direction, the Government has established a modern dairy farm near Rangoon as a demonstration project. The next step, which will take several years, is to build up dairy herds near the larger cities and towns and to grow suitable fodder for them. As the herds develop, we shall establish a modern milk collecting and processing system, including facilities for pasteurizing, bottling, and butter making. Eventually we shall add facilities for making evaporated and powdered milk for distribution to areas where refrigeration is not available.

*Fruit Processing.* A small experimental fruit-canning plant has been established near Taunggyi to prepare for the day when larger quantities of fruit

GOVERNMENT COTTON SPINNING AND WEAVING FACTORY, RANGOON will be grown, and we shall require modern plants for packing, storing, and processing fruit and fruit products.

*Seafood Products.* As previously mentioned in the section on fisheries, we plan to establish in the Rangoon area a tuna fish cannery, a fish-meal and fish-oil plant, and three cold-storage plants.

**Textiles and Threads.** The history of industrialization throughout the world shows that every nation puts heavy emphasis on the production of textiles during the early stages of its manufacturing experience. With certain reservations, which we feel are only prudent under present circumstances, Burma also seeks to decrease its dependence on overseas sources for the bulk of its clothing requirements. The following paragraphs describe the present state of our planning for the textile and related fields:

*Silk and Silk Products.* Climatic conditions in parts of Burma are favourable to the cultivation of mulberry trees and the growing of silkworms, the most suitable areas being the Myitkyina District, Chin Hills, Prome District, Toungoo District, Maymyo, Lashio, Kutkai, Kalaw, Taunggyi, Loikaw, and Loilem.

Since there is a substantial market, both domestic and foreign, for silk thread, yarn, and fabrics, we intend to rehabilitate and expand the silk industry in Burma, both to reduce our imports and to provide employment for large numbers of people in areas where job opportunities are now limited. The silk growing industry is especially attractive, because it can be developed on a rather widespread cottage-industry basis with small capital outlay. A programme is already under way, under the direction of the Superintendent of Cottage Industries, to establish mulberry plantations, silkworm rearing, organization of cocoon markets, and silk weaving.

The most pressing industrial requirement is for a central silk reeling mill. We therefore propose to establish such a mill in the Rangoon area as the first step in the industrialization of the silk industry. The mill will have a capacity of 575 pounds of silk output per day, which is only slightly less than the amount of silk thread and yarn imports for 1951–52.

*Rayon and Rayon Products.* Rayon has a very wide range of uses in the manufacture of clothing, automobile tyres, and other consumer goods. It is now imported in considerable quantities. Since many of the basic raw materials—cotton, bamboo, bagasse, reeds, and various woods—exist abundantly in Burma, our long-range Industrial Development Programme includes the manufacturing of rayon yarn. This project will, however, await the development of more basic industries.

*Wool Textiles.* Prior to the war, Burma produced a substantial quantity of raw wool, but exported most of it. Wool thread and wool products, principally carpets and rugs, are imported, and there is some small scale production of wool clothing from imported thread.

Our plan for the development of the wool industry foresees the establishment of raw-wool processing plants and dyeing plants to produce wool thread, the establishment of a new wool-cloth weaving industry at Natmauk and—later—the development of rug and carpet weaving.

*Cotton and Cotton-textile Products.* One of the major objectives of the Development Programme is to use our basic resources to decrease dependence on foreign supplies of essential commodities. At the present time our greatest expenditure for imports is for cotton textiles, of which 75% is used for clothing and the remainder for necessary household and industrial items.

The only cotton spinning mill in Burma today is the government factory in Rangoon, with 20,000 spindles. For weaving, the government factory has 200 power looms; there are perhaps another 200 power looms in small privately-owned establishments; and it has been estimated that there are some 25,000 hand looms in the country, mostly in rural areas. And there are virtually no finishing, bleaching, dyeing, or printing facilities in Burma.

The Development Programme for the New Burma foresees the production within our country of enough cotton textiles to fulfil almost all our requirements.

To accomplish this would require:

> *Four more spinning mills* of the size of the present government factory. At least one of these eventually will be located in Rangoon, but the first and perhaps the second to be built are more likely to be in the Mandalay area.
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> *Nearly thirty weaving mills* of 200 looms each. The first step in this programme probably would be to double the weaving capacity of the government factory, but later the districts of Mandalay, Moulmein, and Akyab will qualify as sites for weaving factories.

> *Twelve or more finishing and dyeing plants.* The equipment for these processes is relatively inexpensive, and it is planned to add such facilities to the government factory in the near future. The second may well be established in Mandalay.

Altogether, the eventual development of a cotton-textile industry adequate, or nearly adequate, to the needs of Burma would provide employment for over 10,000 people. And the money that we now spend abroad to import cotton textiles will go to cultivators, workers, and merchants in Burma.

However, there are several compelling reasons why this programme should be approached carefully and developed gradually:

> *First,* it is of the utmost necessity to develop increased acreage of a longer-staple cotton in Burma. Most of the cotton now grown is a short-staple variety and is not suitable to spinning the type of yarn needed to produce the quality of textiles that we want. Development of suitable types of cotton is one of the objectives of the agricultural programme. We hope eventually to produce domestically between 80% and 90% of the cotton needed for yarns and textiles in Burma.
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> *Second,* the present state of the world market for cotton textiles is not auspicious for the rapid success of a new textile industry. Despite our interest in increasing the industrialization of Burma and in conserving foreign exchange, we believe that the products of our domestic industry should be competitive in price with imported products. With world prices low at the present time, and with keen competition between the more experienced producers for textile markets, it is clearly wise to carry out our programme with careful planning and step-by-step development.
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> *Third,* the government spinning and weaving factory is showing increased efficiency and approaching a profitable basis. We have every interest in learning well the lessons of this experience before plunging into new undertakings.

For these reasons, no definite targets have yet been established for the realization of our goal of a domestic cotton-textile industry to supply the bulk of our own needs.

**Paint and Varnish Factory.** Requirements for paint are expected to increase sharply in the years ahead. Most of the raw materials needed for the manufacture of paint are available in Burma, with the exception of linseed oil, and we are taking steps to increase the quantity and efficiency of extracting and collecting turpentine, resins and lac in the Shan State. After the development of the more basic mineral and chemical resources of Burma we plan to build a paint and lacquer factory at Rangoon.

**Rubber and Rubber Products.** Burma produces and exports raw rubber, but is spending at the present time over K200 million a year for imported rubber products. Nearly 95% of these imports are rubber tyres and tubes, and as our road transportation expands we shall need them in increasing quantities. We are therefore considering, as a Phase Two project in the industrialization plan, to build a factory at Rangoon to produce approximately 50,000 automobile tyres and tubes annually.

**Jute and Jute Products.**—Before the war Burma consumed annually 52 million jute bags of all types. The average annual imports since the end of the war have been 24 million bags, requiring an average annual outlay of about K30 million.

Although it has never been grown in commercial quantities, experimental plantings have demonstrated that jute will grow satisfactorily in Burma. We therefore propose to establish a jute bag and twine factory at Rangoon. Its size has not yet been finally determined, though a plan for a factory which would produce 18 million bags and about 280,000 pounds of twine per year is being considered. This would be the first step in the development of an industry that eventually would supply all our needs.

During the initial stages, the plant will process raw jute imported from Pakistan until domestic jute production can supply the factory, which would consume the harvest of about 36,000 acres if built in the size proposed. It is thought that this level of jute production can be reached in about four years.

The bag mill would employ over 1,500 workers. Experience in the cotton spinning and weaving factory at Thamaing has demonstrated the high degree of manual dexterity of Burman workers and the fact that they can quickly learn to tend the kind of machinery that will be installed in the bag mill.

These are the principal projects already approved or under study as we enter Phase One of the Industrialization Programme in Burma. In other activities—such as tobacco manufacturing—we shall seek to improve the efficiency of manufacturing and the quality of the end product.

Perhaps some of these projects in all three of the industrial development areas may be postponed or even abandoned; no doubt others will be added. But the programme has been prepared with painstaking care and is designed to carry us forward into a new era of increasing industrialization at the maximum rate that is practical in terms of our resources and wise in terms of the national interest.

# SMALL SCALE INDUSTRIES

HOWEVER successful our efforts may be to introduce modern industries in Burma, the Development Programme cannot rapidly transform the economy into one of large scale plants, intensive mechanization, high-level productivity, and high industrial wages. We mentioned previously that the economy of Burma will remain predominantly agricultural for a long time to come. It is equally true that the importance of small scale manufacturing and cottage industries will continue for many years.

In fact, the substantial expansion of small scale industry, simultaneous with the growth of large enterprise, is a thoroughly desirable national objective. Cottage industry, plus establishments employing from a few to fifty workers, supply a wide variety of goods to local markets. More importantly, perhaps, they provide seasonal and part-time employment for many agricultural workers, and it has been estimated that there is a pool of two million workers who cannot be employed productively in the off-seasons except in small scale industry. It therefore provides employment which is socially and economically advantageous to the country.

Small scale enterprises do not lend themselves well to elaborate organization or central government direction. Certain parts of the Development Programme—especially improvements in transportation and the provision of cheap electric power—will, however, directly benefit small scale producers and open up new opportunities for them to improve the manufacturing and increase the sale of their products.

In addition, the Cottage Industries Office has started a programme of technical aid to small scale industry. Definite plans have been prepared and a start has been made to carry out programmes for improvement in textile printing, power-loom weaving, sericulture, silk reeling, silk weaving and dyeing, pottery, handmade paper, sugar refining, and condensed milk industries.

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The Government also intends to extend credit facilities to small scale industry and to assist in other ways. The greatest promise for steady improvement in cottage and small scale industry, however, lies in the formation of cooperatives for bulk purchasing, marketing, financing, standardization, and the introduction of new techniques.

It is not the purpose of this pamphlet to discuss in detail the problem of small scale industry. It is, however, our present purpose to recognize the continuing and future role of small scale manufacturing as an integral part of the national economy and to help it in every practical way toward healthy development.

# HIGHLIGHTS OF THE NATIONAL HEALTH PROGRAMME

GOOD health is the greatest gift, so goes an old Burmese saying. Only when we suffer ill health do we realize that good health is the first requisite of a happy and useful life. Therefore an important element in our programme of economic and social development is a national health programme.

Further, in building our nation we need a healthy people. We cannot hope for success if we do not have the will and the strength to carry out our respective tasks. With these objectives in mind we have carefully formulated a national health programme. Here are its highlights:

Health education for the entire nation.
Maternity and child health centres.
A school health service.
401 hospitals with 18,318 beds by 1960.
120 rural health centres.
A modern nine-storey Union Medical Centre in Rangoon.
A pharmaceuticals plant.

## HEALTH

### THE BACKGROUND

OUR country is a land of villages. No less than 85% of our people live in rural areas. Before Independence, almost the only health services the village people received amounted to occasional vaccinations against small-pox and inoculations against plague. Sickness took great toll of our rural people.

The health problem in our towns was even worse. Our hospitals were under-staffed. We lacked doctors and nurses to serve the patients. The greater incidence of disease and the inadequacy of health services made the urban death rate higher than the rural.

Since Independence, with our country disrupted by the insurrection, our health picture has hardly improved. Preventable diseases still do their deadly work. Our health services are still insufficient.

We do not lack food, because our fertile fields yield us good harvests. Yet we are undernourished. Our bodies hunger for foods that will make us strong and enable us to resist disease.

### THE OBJECTIVES OF THE PROGRAMME

The objectives of the health programme can be stated quite simply. They are:

*To ensure full health for our people.*
*To lower the mortality rate.*
*To reduce deaths in childbirth.*
*To minimize infant mortality.*
*To wipe out epidemic and endemic diseases.*

## THE PROGRAMME

The health programme has been carefully formulated with the above objectives in mind. Great attention has been given to all aspects of national health improvement, with appropriate emphasis on prevention of ill health, as well as on necessary curative measures. Here is the multi-pointed programme:

**Prevention.** In the preventive part of our health programme we will stress health education, environmental sanitation, prevention of disease, and nutrition.

*Health education* must be given high priority. The lack of elementary knowledge on how to live healthfully and how to prevent and cure disease has led to unnecessary illness and loss of life. The Bureau of Health Education will combat this ignorance on a nation-wide scale.

*The National Fitness Council* is helping our people to strengthen their bodies and develop a spirit of sportsmanship. Its valuable work in physical education will continue in increasing measure.

*Nutrition* is a subject of which most of us know very little. The Central Nutrition Research Bureau will develop and recommend a national diet which will provide the food values we need to build strong bodies, and yet will not conflict too much with our traditional food habits.

*Environmental Sanitation.* A clean environment is necessary to health. It eliminates breeding-places for dysentery and other gastro-intestinal infections that levy such heavy toll on our people. We will dig tube wells and bore hole latrines in our villages and enforce other measures to completely eradicate diseases associated with unclean environment.

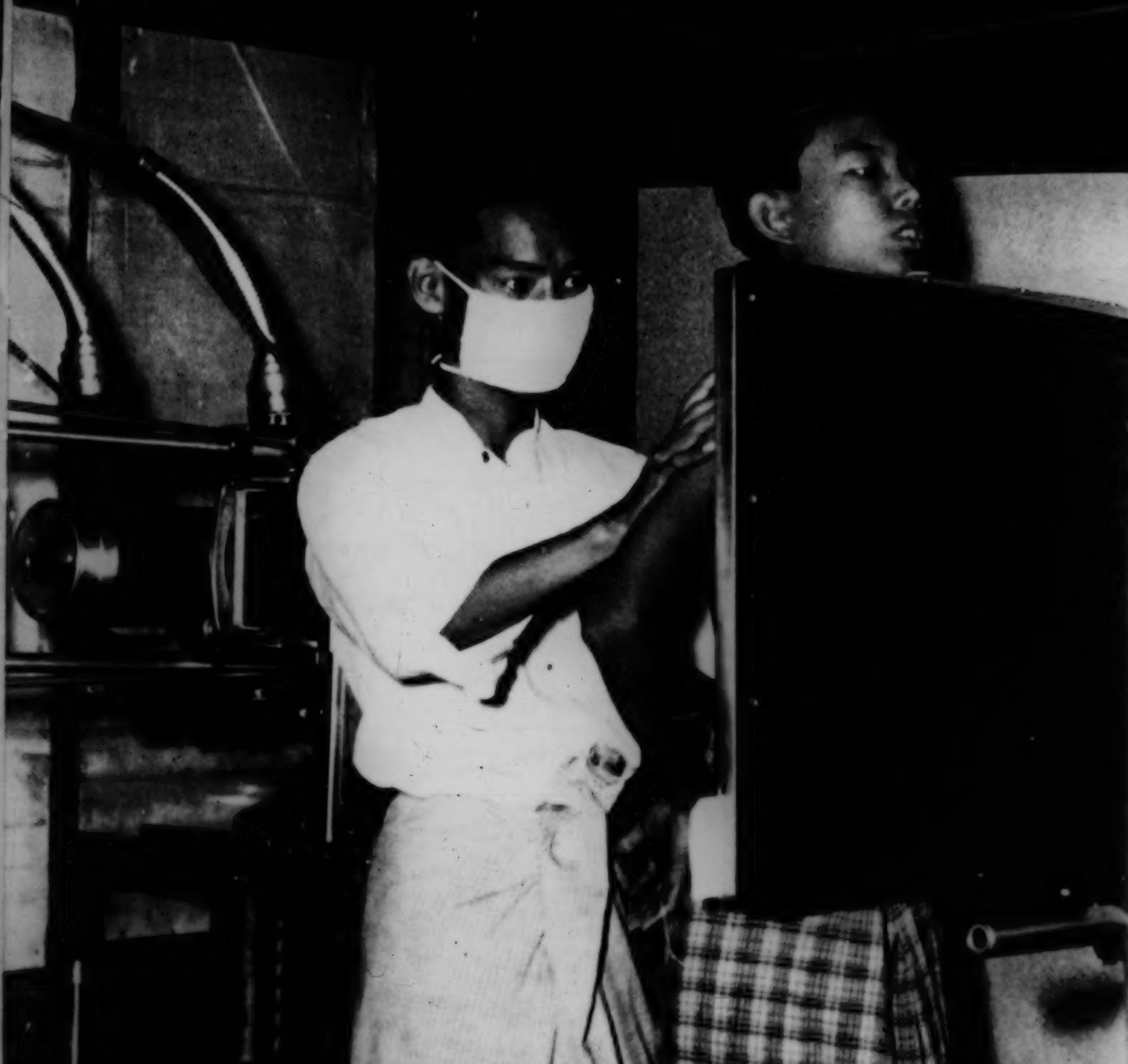
*Vitamin-tablet distribution* for the entire nation has been adopted as a vital step in supplying our people with vitamins deficient in our diet. During the first stage of this free distribution we are restricting the allotments to children, expectant mothers, and mothers with young children. As soon as possible, distribution will be made to all.

*Rural health centres* will be established all over the Union to bring health assistance and advice to the Burmese village.

*The School Health Service* is entrusted with the care of our schoolchildren's health. It will administer a programme which will include periodic and special medical examinations, treatment of remediable defects, prevention of disease, and health education.

TEACHERS
COMMIT

HEALTH EDUCATION IN THE SCHOOL



X-RAY EXAMINATION IN ANTI-TUBERCULOSIS CAMPAIGN

"*The Anti-Big Four Campaign,*" carefully organized and suitably equipped, will deal effectively with the four big public enemies—malaria, tuberculosis, venereal disease, and leprosy—with long records of depredation into the nation's health.

*Malaria.* To fight malaria we have established an anti-malaria organization whose activities will include the free distribution of anti-malarial drugs and the spraying of malarial areas with D.D.T.

*Tuberculosis,* so widespread in our country, can and will be greatly reduced. The forceful programme will include mass X-rays for early detection of infection, B.C.G. vaccinations for prophylactic action, and immunization of susceptible children and adults.

*Venereal disease,* which takes such heavy toll of the vitality of the nation, is to be fought actively in anti-V.D. clinics permanently based in our hospitals, and in mobile units all over the country. Mass education and social work will aid in the fight.

*Leprosy,* the ugly and debilitating disease that causes so much distress, has been given special attention in the health programme. Through the Central Leprosy Clinic in Rangoon, through others to be established, and through leper colonies, we will combat this disease. Our immediate aim is to give modern treatment to the largest possible number of the afflicted, especially in rural areas.

## Cure

*Hospitals* will be built all over the country. In each town a modern, well-equipped hospital will be constructed. The number of beds in each will vary with the need of the area concerned. By 1960, 401 hospitals with 18,318 beds are planned to be in service. Of these, 380 hospitals with 16,123 beds will be operated by the Government, the rest being privately operated.

Major hospitals in the country are to be expanded and modernized. Specialists will be made available at Kyaukpyu, Magwe, Bassein, Moulmein, and Mandalay. To conduct research, to treat the sick from the Rangoon area, and to take care of special cases from all over the Union, a modern nine-story Union Medical Centre will be established in the capital city. This Centre will also offer facilities for teaching and training in its constituent Medical College and Nursing School.

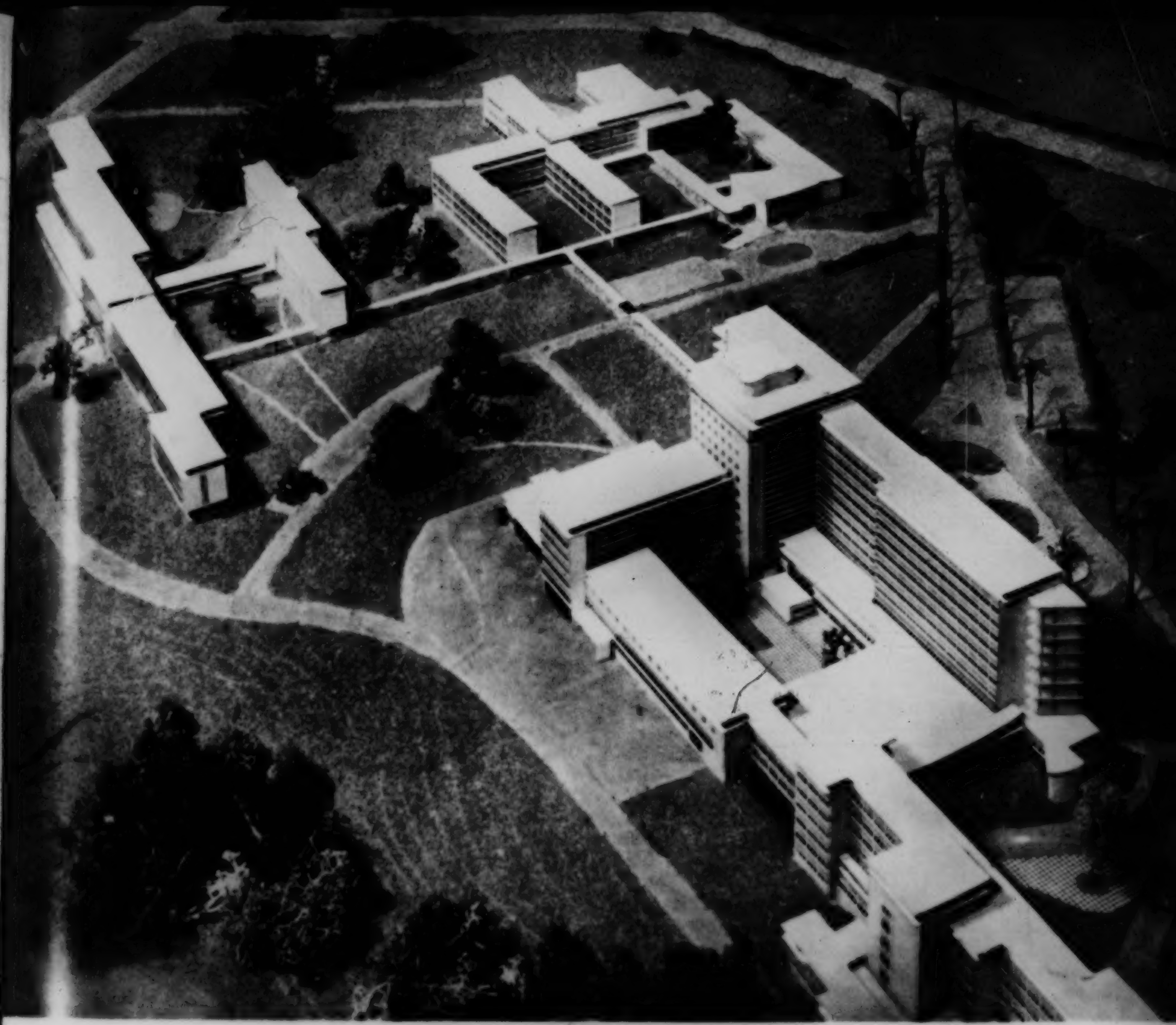
*Training* of essential people to staff our hospitals and health services is vital as we push ahead with our health programme. We have established centres for training public-health assistants, sick and public-health nurses, midwives and lady health visitors. The centres will also train compounders, assistant health education officers, vaccinators, and laboratory technicians.

*Polyclinics* have been established in Rangoon on an experimental basis. All medical services are available in these polyclinics, which are also intended to be local health clubs. Based on the success of this experiment, decisions will be made for the extension of polyclinics all over the country.

*Indigenous medicine*, which has been sadly neglected in the past, has been recognized as of value to the health programme. A committee to examine and define the role of the indigenous medical practitioners will study the question. A beginning is to be made with the opening of nine free dispensaries each in Mandalay and in Rangoon.

*Medical stores* services will be expanded to procure sufficient medicines and equipment to supply the health programme.

*Pharmaceuticals* manufacture within our country is an urgent need. Work on a modern pharmaceuticals plant near Rangoon has already begun. In the beginning it will produce essential drugs for hospitals and public health use. Later on it will manufacture biological vaccines, antibiotics, and sulpha drugs as well.



MODEL OF THE UNION MEDICAL CENTRE, RANGOON

VOCATIONAL TRAINING

## HIGHLIGHTS OF THE EDUCATION PROGRAMME

IN dedicating ourselves to build a new nation, we have adopted this programme of economic and social development. We shall remain firm in our dedication only when we deeply understand what we are striving for. We shall succeed in our task only when we have the "know how" to achieve the fuller national life for which we strive. With these thoughts in mind we have designed the education programme. Here are its highlights:

Building more and better schools all over the Union.

Training teachers to staff our schools.

Rewriting old textbooks and producing new ones.

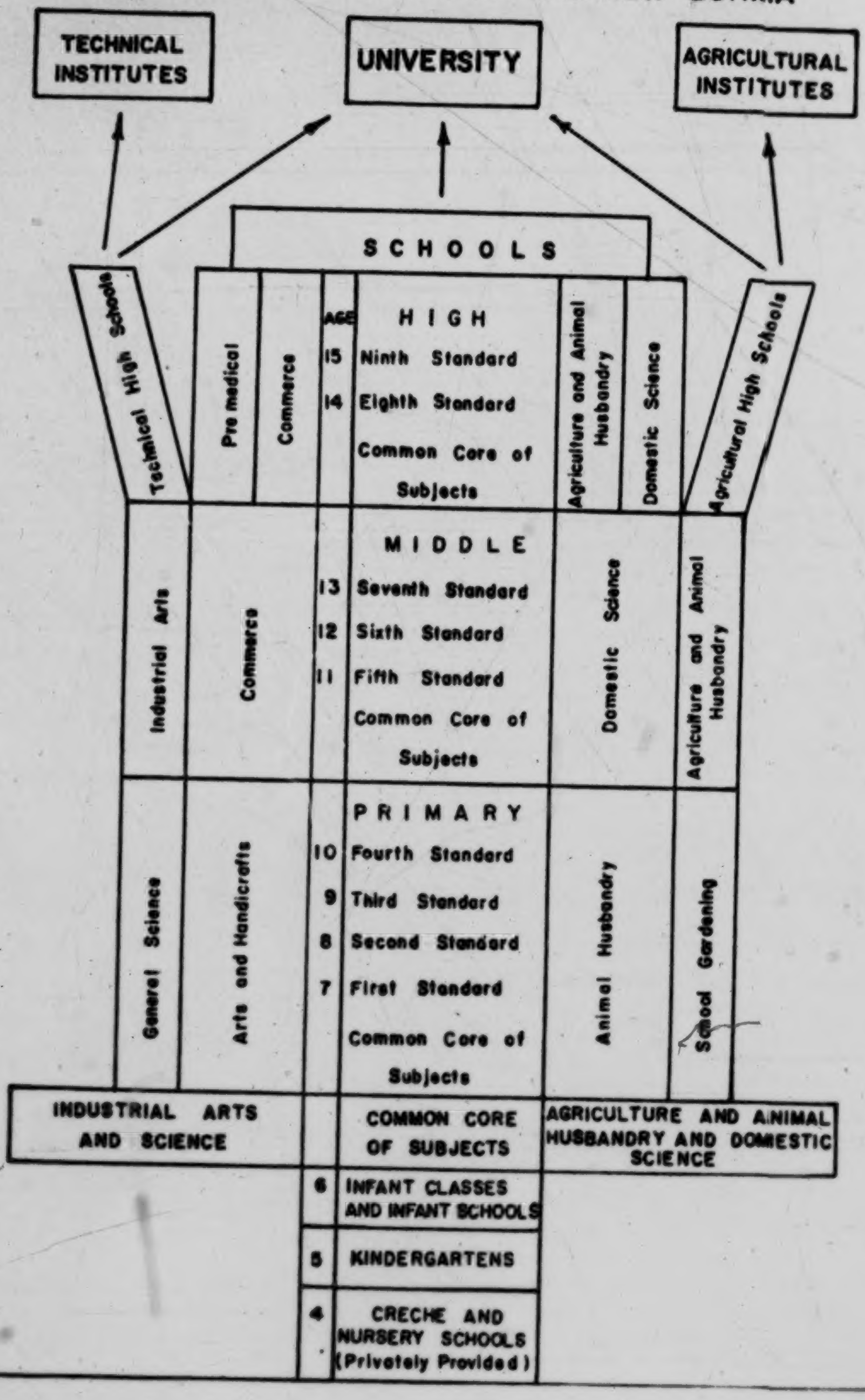
Education for a cultural and democratic life.

Technical and vocational education to help build the New Burma.

A liberal scholarship programme.

A State scholarship programme for study abroad.

# THE EDUCATION PLAN FOR THE NEW BURMA


TECHNICAL INSTITUTES
UNIVERSITY
AGRICULTURAL INSTITUTES
SCHOOLS
Technical High Schools
Pre medical
Commerce
AGE
HIGH
15 Ninth Standard
14 Eighth Standard
Common Core of Subjects
Agriculture and Animal Husbandry
Domestic Science
Agricultural High Schools
Industrial Arts
Commerce
MIDDLE
13 Seventh Standard
12 Sixth Standard
11 Fifth Standard
Common Core of Subjects
Domestic Science
Agriculture and Animal Husbandry
General Science
Arts and Handicrafts
PRIMARY
10 Fourth Standard
9 Third Standard
8 Second Standard
7 First Standard
Common Core of Subjects
Animal Husbandry
School Gardening
INDUSTRIAL ARTS AND SCIENCE
COMMON CORE OF SUBJECTS
AGRICULTURE AND ANIMAL HUSBANDRY AND DOMESTIC SCIENCE
6 INFANT CLASSES AND INFANT SCHOOLS
5 KINDERGARTENS
4 CRECHE AND NURSERY SCHOOLS (Privately Provided)

# EDUCATION

## THE BACKGROUND

EDUCATION is the greatest social investment we can make. By teaching us to appreciate our rich and distinctive culture, education fosters deep pride in our Burmese way of life. Through technical training it will develop in us the "know how" to build the New Burma. Through instruction in democracy, it helps us realize our rights and duties as citizens of our new, democratic republic.

The educational system under the British did not generate in us a feeling of pride in our culture; it did not teach us to use the tools of modern technology; it did not give us enough scope for teaching the ways of democracy nor for the expression of patriotism and citizenship.

## THE OBJECTIVES OF THE EDUCATION PROGRAMME

The objectives of the education programme are:

*To provide a basic education for all.*

*To educate our youth to lead healthier, happier, and more useful lives.*

*To train our youth for good citizenship and the democratic way of life.*

*To wipe out illiteracy among the nation's adults.*

*To introduce vocational and technical education.*

*To grant scholarships to young men and women of promise to continue their education.*

## THE PROGRAMME

For the first time in the history of our education we have formulated aims which envisage a complete revolution in our education system. We have mapped out the education programme so that it will help us build our New

Burma with modern techniques, yet without discarding the best in our traditions.

*We will build more schools and equip them better. We will train more teachers along new lines and put modern books in the hands of our children.*

## Schools

*A primary school in every village* is a major target.

*More middle and high schools* will be opened as quickly as possible.

*Special high schools* offering training in industry and agriculture will be introduced for the first time into our education system.

*Technical and agricultural institutes* will give our students vocational and technical training beyond the high school level. The Government Technical Institute at Insein will be expanded. An agricultural institute will be established at Pyinmana. A Rangers College is to be opened at Maymyo.

*Professional schools* of the University of Rangoon will be enlarged. The Faculty of Engineering at the University will be greatly expanded to train more engineers. At Mandalay a branch medical college will be opened soon.

*Teacher Training*. As more schools open and students take their seats in the classrooms, the need for teachers will multiply. We have devised emergency and long-term schemes to train as many competent teachers as our education programme requires.

*Textbooks*. Written in colonial days, our textbooks are no longer suitable for use in the schools of a sovereign, independent republic. Most of them have become obsolete both in content and in manner of presentation. With these considerations in view we are now completely revising our old textbooks and preparing new ones.

*We will teach our children to take pride in our culture and to cherish democracy, for freedom is in our blood. We will teach them to live a fuller life and to use the tools of modern technology.*

*Education in National Culture and Democracy*. Through a conscious and persistent effort to make our children aware of our rich cultural and spiritual heritage, we will instill in them a pride in our unique culture. We will also teach them to be proud of the Union, so that they will have a sense of belonging together. And we will take care that our cultural and national pride will lead us to accept with good will a peaceful role in the comity of nations.

Through teaching and practising democracy in school life, we will instruct future generations to respect and follow the ideals of democracy, and tread in the paths of peace. Our children will be encouraged to learn to reconcile differences of opinion by mutual consent and to make progress by joint action.

Through education in our culture and democracy, our children will develop the will and the spirit to serve the Union.

*Education toward "A Fuller Life" and in Technology.* Schools under the old education system neglected practical education. We were not taught to make useful things. Nor how to live more healthfully. Fine arts, industrial skills, and general and domestic science held insignificant positions in the old school curricula. Our education programme will remedy these defects.

Throughout the educational process, as before, each child will receive a general education. In addition, however, practical education will be added. Thus, in the primary school, in addition to courses in general education our children will be taught general science, handicrafts, animal husbandry, and gardening. In the middle school, special courses will include industrial arts, commerce, domestic science, agriculture, and animal husbandry. In the high school, the pupils will study premedical courses, commerce, agriculture and animal husbandry, domestic science, and industrial arts.

However, those who wish to specialize early may leave the general schools after they have completed the middle school, and enroll in special technical or agricultural high schools, from which they may later proceed to the technical or agricultural institutes or enter the University.

*A Liberal Scholarship Programme.* We have planned a liberal scholarship programme. Financial circumstances have denied far too many young men and women of promise the opportunity to continue their education. As a result, the nation has hitherto lost the benefit of the contributions they could have made to the nation's progress and welfare. Through a liberal scholarship programme at every level of education, from the middle school to the university, we aim to assist such youths. Those who have both a real potential for development and a will to pursue their education will be assisted to achieve their promise, and thereby to contribute to the development of the nation.

*A State Scholarship Programme for Study Abroad.* Before the war only a few students were sent abroad each year, usually to the United Kingdom, for advanced studies. After our Independence, anxious to develop expert personnel to serve the Union, we sent as many as a hundred scholars a year to the world's outstanding universities. We intend to expand the State scholarship programme further, so that each year we will be able to send as many of our bright young men and women as the nation requires.

# HIGHLIGHTS OF THE HOUSING PROGRAMME

WELL-CONSTRUCTED and carefully planned homes and public buildings in well-ordered, healthful, and pleasant surroundings are what we want for our New Burma. We have a long way to go before this ideal can become a reality. We are making a beginning with our housing programme. Its highlights are:

Construction of residential and public buildings for the Union.

Country planning with a model village programme as its chief feature.

Town planning.

Aid to private builders through housing loans and the production of construction materials within the country.

# HOUSING

## THE BACKGROUND

WE are now faced with an unprecedented housing problem. The war destroyed many of our towns and villages, making thousands of our people homeless. The insurrection, by causing more destruction and preventing rebuilding, made the problem worse. The insurrection further complicated the housing problem by driving many villagers into towns already swollen with large post-war populations. The situation is especially bad in Rangoon. Slums mushroomed almost overnight in the nation's capital, where refugees built small basha huts on vacant lots and on the city's sidewalks.

In our desire for a better and happier life, we have come to value good homes for our families. We are concerned not only that our homes should be adequate in themselves, but that the environment in which they are placed should be adequate as well. This is equally true, whether our homes be in villages or in the towns.

Our housing programme, therefore, must envisage the rapid construction of better housing, both residential and public, in sufficient amount; the clearing of slums; the resettlement of refugees; and town and country planning.

## THE OBJECTIVES OF THE HOUSING PROGRAMME

The objectives of the housing programme are:

*To fulfil the national need for residential and public housing.*

*To promote town and country planning.*

*To increase the supply of construction materials.*

## THE PROGRAMME

We have carefully worked out a comprehensive programme that will effectively deal with all aspects of the problem.

## Construction

*Residential Houses.* For the first time in the history of our country, the Government is assuming responsibility for building decent houses for the people. These homes will be either sold on the hire-purchase system or rented for moderate sums. Our immediate aim is to construct thousands of housing units in 15 towns, including Rangoon. Here is what we shall do:

*For Rangoon.* To meet the needs of the vastly enlarged and growing population of the nation's capital we will build the following:

> *Housing Projects.* Six 32-unit buildings at each of the following localities: 51st Street, AFPFL and Lanmadaw Kwetthits, and Pazundaung; twenty-one 32-unit buildings at Taunggyan Kwetthit; 96 units of two-storey pucca houses for government officials at Pyidaungsu Yeiktha, Halpin Road; and new buildings for the fire-gutted area between Phayre Street and Sule Pagoda Road.
>
> *Yankinmyo.* The new satellite town at Kanbe will house 5,000 families. It will consist of pucca buildings of one, two, and four storeys, ranging from six-unit barracks to 32-unit flats. Already 548 units have been completed and 552 units are under construction. The town will have its own education, shopping, and recreation facilities.
>
> *Transit Camps.* Emergency accommodations for 6,400 families are to be constructed. Of this number, temporary shelters for 4,400 families have already been built. The transit camps are for those whose homes have been burned or who have been living in slums.

*For Other Towns.* Our efforts to build homes for our people cover other towns as well.

> In eleven towns, 3,400 units will be built. They will be at Akyab, Bassein, Loikaw, Magwe, Mandalay, Minhla, Moulmein, Myingyan, Prome, Shwebo, and Toungoo. Hundreds of housing units are also scheduled for Insein, Kyaukpyu, and Mohnyin.

*Aid to Private Builders.* Although the Government's housing programme is a considerable one, it will not satisfy the nation's requirements for new homes. By far the major part of our housing construction will have to be executed by private builders.

To help them we will take measures to increase the supply of construction materials. We will also aid private builders by making available long-term housing loans.

*Public Buildings*. As the programme for economic and social development progresses, the need for more public buildings, such as schools and hospitals, becomes greater. Here is a partial list of what we will build for public use throughout the Union.

*For Rangoon*. Because of its great population and its role as the capital of the Union, a large part of our public building construction will be in Rangoon. Proposed for the city are:

A six-storey office building on Strand Road.

A broadcasting station on Prome Road.

The nine-storey Union Medical Centre at Shwegondaing.

A four-storey, five-block Baho Market between Bogyoke and Theingyi bazaars; Bogale, Nyaungbinlay, and two other markets.

Two Labour Welfare Centres at Ahlone and Botataung.

Burma Translation Society Building on Merchant at 37th Street.

Government offices including Parliament Building, Supreme Court, the Prime Minister's Office, and Labour House.

*For Other Towns*. Construction of public buildings in other towns including the following:

A Rangers College at Maymyo and a Forest Research Institute at Thamaing.

Fifty-five State schools and six State Teacher Training Institutes.

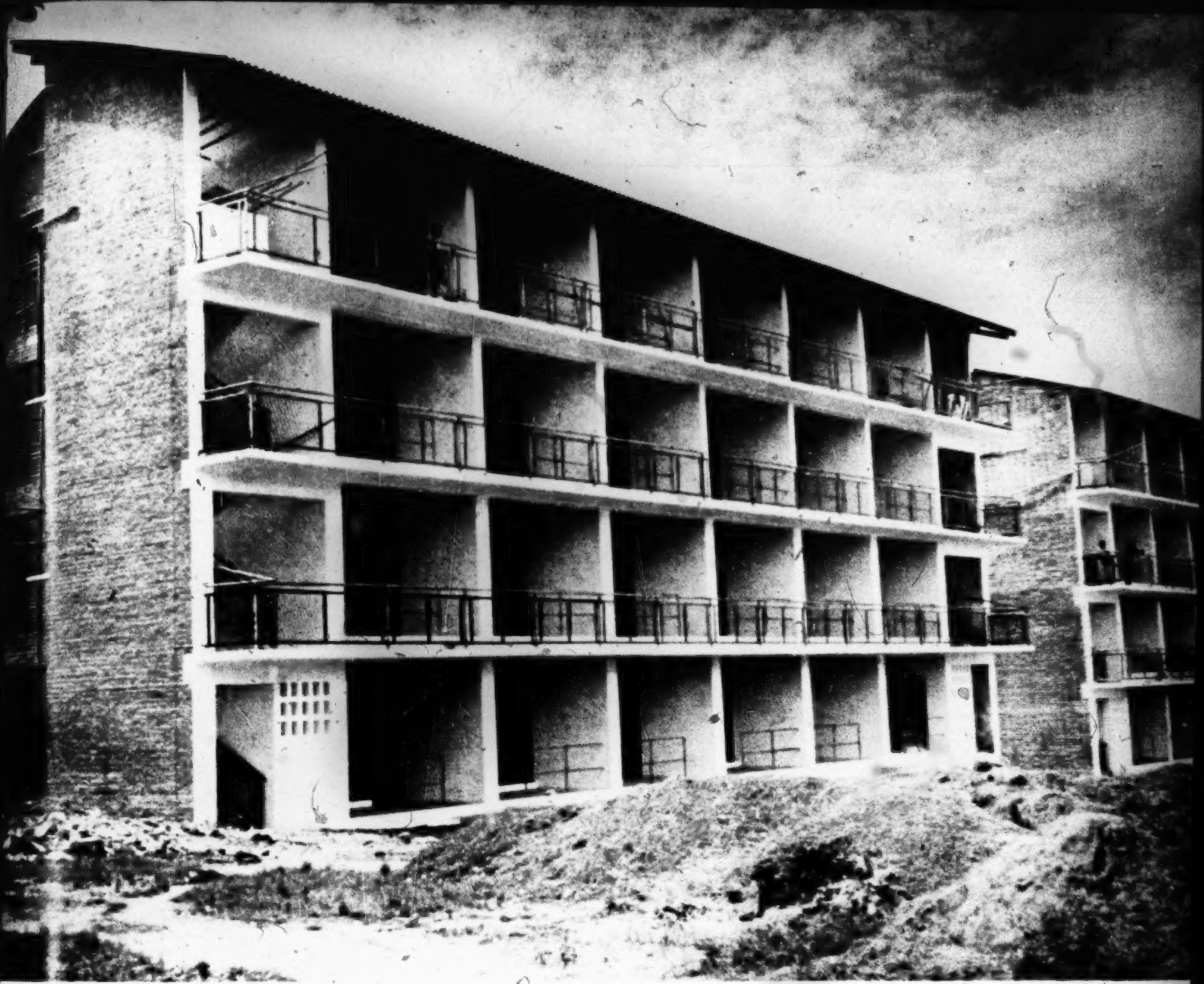
Six colleges, in Rangoon, Kyaukpyu, Magwe, and Mandalay.

A Labour Welfare Centre at Mandalay.

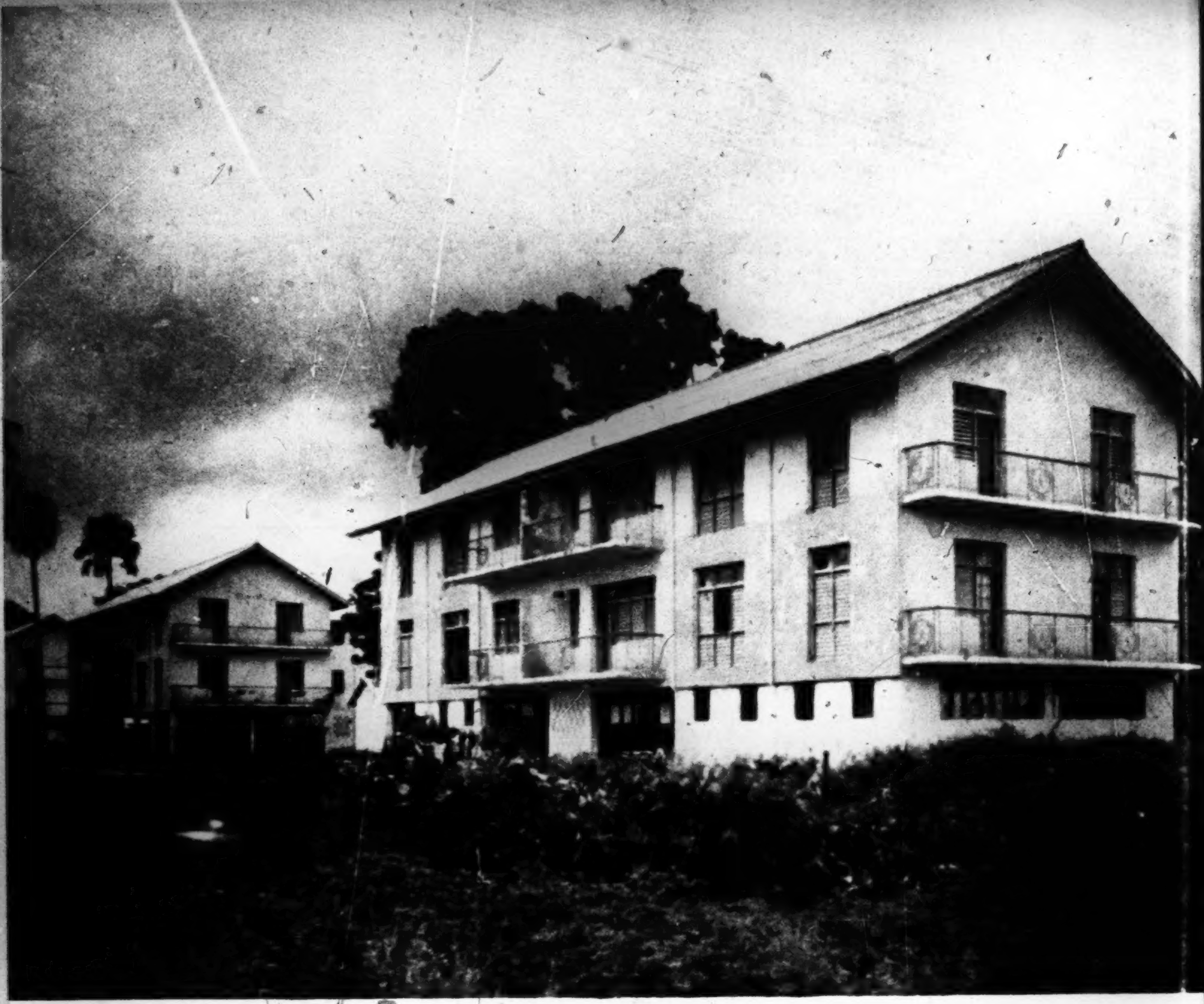
## Town and Country Planning

*Country Planning*. We have placed country planning even before town planning, because ours is a land of agricultural villages. The task of building a New Burma must begin with the village.

We must make our villages pleasant and healthy places to live and work in. We must improve the village dwelling so that it will be more comfortable



A FOUR-STOREY HOUSING UNIT IN YANKINMYO, RANGOON



NEW HOUSING PROJECT, RANGOON

and durable. We must build schools, health facilities, and community centres in every village. We must construct roads, and bore deep pit latrines and dig wells for sanitation. The new Burmese village must be much better than the old.

As the first step in country planning we will build a model village in every township within the Union. Construction will begin shortly in 30 townships. By 1960 there will be 200 model villages.

Each model village will have good roads, efficient drainage, a safe water supply and deep pit latrines. It will feature a community centre, a dispensary, and a school. A development team will offer advice and help the villagers to improve their standards of living.

In a model village, houses will be built by the people themselves according to plans drawn up by the Housing Board, aided by loans. Roofing like aluminium or corrugated iron, more durable than thatch, will be supplied on five-year loans to be settled in yearly instalments.

*Town Planning*. We have drawn up plans for Loikaw in the Kayah State, Henzada (which was nearly destroyed by fire recently), and Rangoon.

*Greater Rangoon*. To meet the future needs of the rapidly growing capital city we have formulated a programme for its planned development. First priority will be given to the clearing of slums and to resettlement of the slum dwellers in the Government's housing projects. We have already made progress in this work. Regarding the city's water supply, in three or four years we will be able to meet the requirements of 1,000,000 inhabitants. Our sewerage facilities will also be expanded within seven or eight years to serve all parts of Rangoon.

*Roads, Drains, and Water*. Recognizing the importance of roads, drains, and water in community living, we have already made plans for the provision of these essential items in the 13 towns where housing construction will begin.

**Manufacture of Construction Materials.** Our housing programme requires a tremendous increase in the supply of all types of construction materials. Our programme provides for the expansion of existing plants and the establishment of new ones for the manufacture of many essential construction materials.

The programme envisages the expansion of the cement industry; the building of a steel re-rolling mill to produce steel for construction; the establishment of an integrated forest industry which will provide construction timber, chipboard and wallboard, windows and doors, and furniture; and a plant for the production of roofing tiles and bricks. Plants for the manufacture of still other building materials are under consideration.

*Building Research Station.* To conduct research into construction materials and all aspects of building construction we have set up a Building Research Station. Materials like stabilized earth blocks, which will make building blocks comparatively cheaper than burned bricks, are being studied.

# HIGHLIGHTS OF THE SOCIAL WELFARE PROGRAMME

SINCE the war our social problems have multiplied. Their solution calls for urgent action. We cannot rely on private individuals or groups to handle these problems unaided by the Government. Government has therefore drawn up a programme of social welfare. Its highlights are:

Homes for those who need public assistance.

Day and residential nurseries and child guidance clinics.

Prevention of juvenile delinquency and the rehabilitation of anti-social individuals.

Vigilance work for the protection of our women.

Community development projects and community centres.

Mass education to promote 100% literacy and to raise the living standards in the less developed areas of the Union.

The training of social welfare workers.

The establishment of a Council of Social Service.

# SOCIAL WELFARE

## THE BACKGROUND

MUTUAL aid and the spirit of service ever present in the Burmese national character have helped solve many of our social problems in the past.

Today the complexity of modern life and especially the disruption of our economic and social structure during the war have brought us many new social problems. Thus we have an urgent need for social welfare work.

Recognizing its duty, the Government has adopted a progressive social welfare programme.

## THE PROGRAMME

We shall do the following for our programme of social welfare:

*We will help the young and the old, the handicapped and the distressed, the sick and the infirm.*

For those unfortunate people who cannot fully take care of themselves, the Government will render special assistance. We will expand facilities for the care of orphans, homeless children, and the aged. The blind, the deaf, the mute, and other handicapped persons will receive our assistance.

Our programme also calls for vigilance work for the protection of our women, the prevention of juvenile delinquency, and the rehabilitation of anti-social individuals, both young and old. In all these matters the Government will cooperate with private, voluntary social-welfare organizations.

In Rangoon the Government has already established a Home for Aged Women. A Home for Aged Men will also be provided.

*We will work for the welfare of the family, especially that of mothers and infants.*

Through day and residential nurseries, child guidance clinics, a citizen's enquiry and advice bureau, and a family welfare service we will serve the family and the nation's mothers and children.

A CHILD HEALTH CENTRE

MILK DISTRIBUTION, FAMILY WELFARE CENTRE, AHLONE

We have, in Rangoon, two day nurseries for the care of infants of working mothers. We will open two more in Rangoon, and others elsewhere. Also in Rangoon we plan to add one more residential nursery to the one already in existence. We will also establish a residential nursery in Mandalay. Our goal is a residential nursery in every major town in the Union.

*We will work for the development of a healthier and happier community life.*

*Community Development Projects.* For the uplift of our rural communities we will begin our community development projects in areas with 20,000 to 30,000 people. Health teams will tackle the problem of disease; education teams will open schools; construction teams will make roads, dig wells, and build schools; economic development teams will help bring more income to the community. The various government departments whose assistance is valuable to the community development projects will work together for the welfare of the whole community.

*Community Centres.* These will provide informal meeting places for all kinds of educational and recreational activities. They will also bring members of the community into closer touch with each other, and serve as a focal point for community improvement activities.

*Community Chest.* To stimulate and receive money gifts for the use of private voluntary social welfare agencies, a Community Chest will be encouraged. By uniting in their appeals to the public for funds through the Community Chest, a better response is expected than would result from their individual efforts. The Community Chest will apportion the receipts among the private agencies according to their needs.

*We will promote 100% literacy and raise the living standards of the less developed areas within the Union.*

Through its vigorous literacy programme, which includes the revival of monastic schools, the Mass Education Council proposes to bring 100% literacy to the Union.

Through its multiple development teams, the Mass Education Council will help to raise the living standards of the people in remote and less developed parts of the Union. Each development team will have expert personnel competent to deal with problems of health, education, and welfare. Each team will also have workers who can help raise the incomes of our people in the less developed areas.

### *We will encourage cooperation among private welfare agencies and will ourselves work together with them.*

Private organizations have for many years been doing valuable social service work. However, the absence of a central body through which information can freely flow between the various welfare agencies has caused much duplication of effort and has prevented close cooperation so necessary in certain areas of social work.

To remedy this we have recently established a Council of Social Service, a sort of a clearing house, through which private agencies will be informed of all the social work that is being done in the Union, so that they can shape their own programmes most effectively.

Appreciating fully the good work which can be done by private organizations in the field of social welfare, the Government will cooperate with them as much as possible.

### *We will train social welfare workers*

Our programme of social welfare needs many properly trained workers to make it a success. Because such a programme is new in our country, we are faced with a tremendous scarcity of trained personnel.

To solve this problem we are establishing a School and an Institute of Social Work. We will also continue to send State scholars abroad for advanced work in social welfare.

# IN CONCLUSION

THE Government of the Union of Burma has prepared these plans, that you have just been reading, to raise the level and broaden the horizons of life in our New Burma. They are large and comprehensive plans and they have been made very carefully.

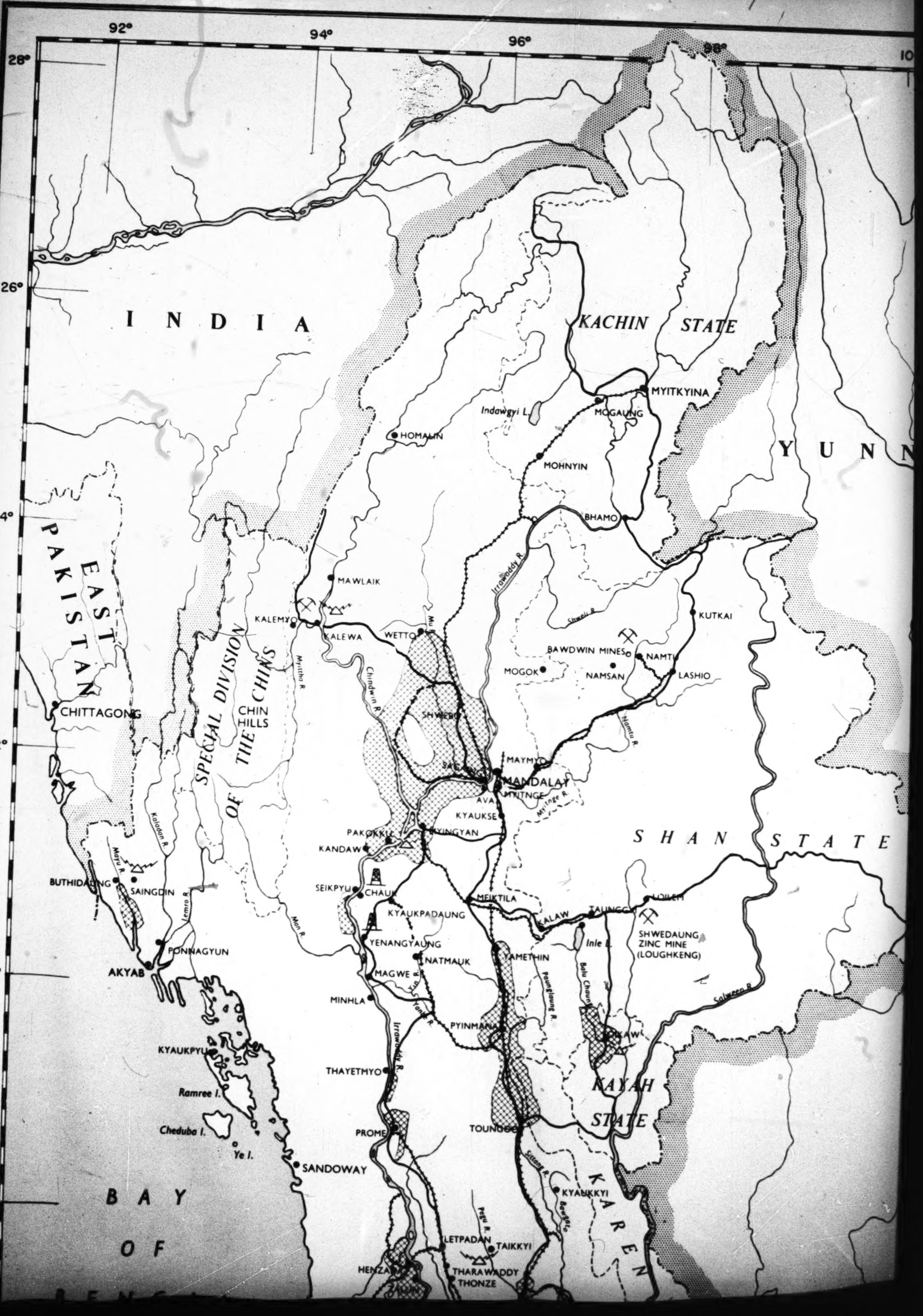
But human affairs are difficult to order and human frailties are many. No doubt we shall fall short in some respects; no doubt we shall exceed our targets in others. If so, we shall adapt ourselves accordingly, for there is nothing sacrosanct in plans, programmes, schedules, statistics: they are but useful devices to guide us along the way and to check our position and prospects.

The Government pledges itself to act with vigour, to be frankly self-critical, and to keep the people of Burma fully informed of our problems and progress. It earnestly seeks the wholehearted participation and support of all the people, for it is in the interests of all people that the Economic and Social Development Programme has been designed.

WE *Burmans have a right to dream bold dreams and to make bold plans for our future. This we have done.*

*We Burmans have, too, an obligation to act—that these dreams may come true. This we are doing.*

*And finally, we Burmans have a sacred duty to conform both our dreams and our acts to our faith. This we shall ever do.*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MYITKYINA
MOGAUNG
Indawgyi L.
MOHNYIN
HOMALIN
BHAMO
Irrawaddy R.
Shweli R.
KUTKAI
BAWDWIN MINES
NAMTU
NAMSAN
MOGOK
LASHIO
Namtu R.
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Chindwin R.
SHWEBO
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SHWEDAUNG ZINC MINE (LOUGHKENG)
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Balu Chaung
YAMETHIN
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PYINMANA
Yin R.
Irrawaddy R.
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Sittang R.
Salween R.
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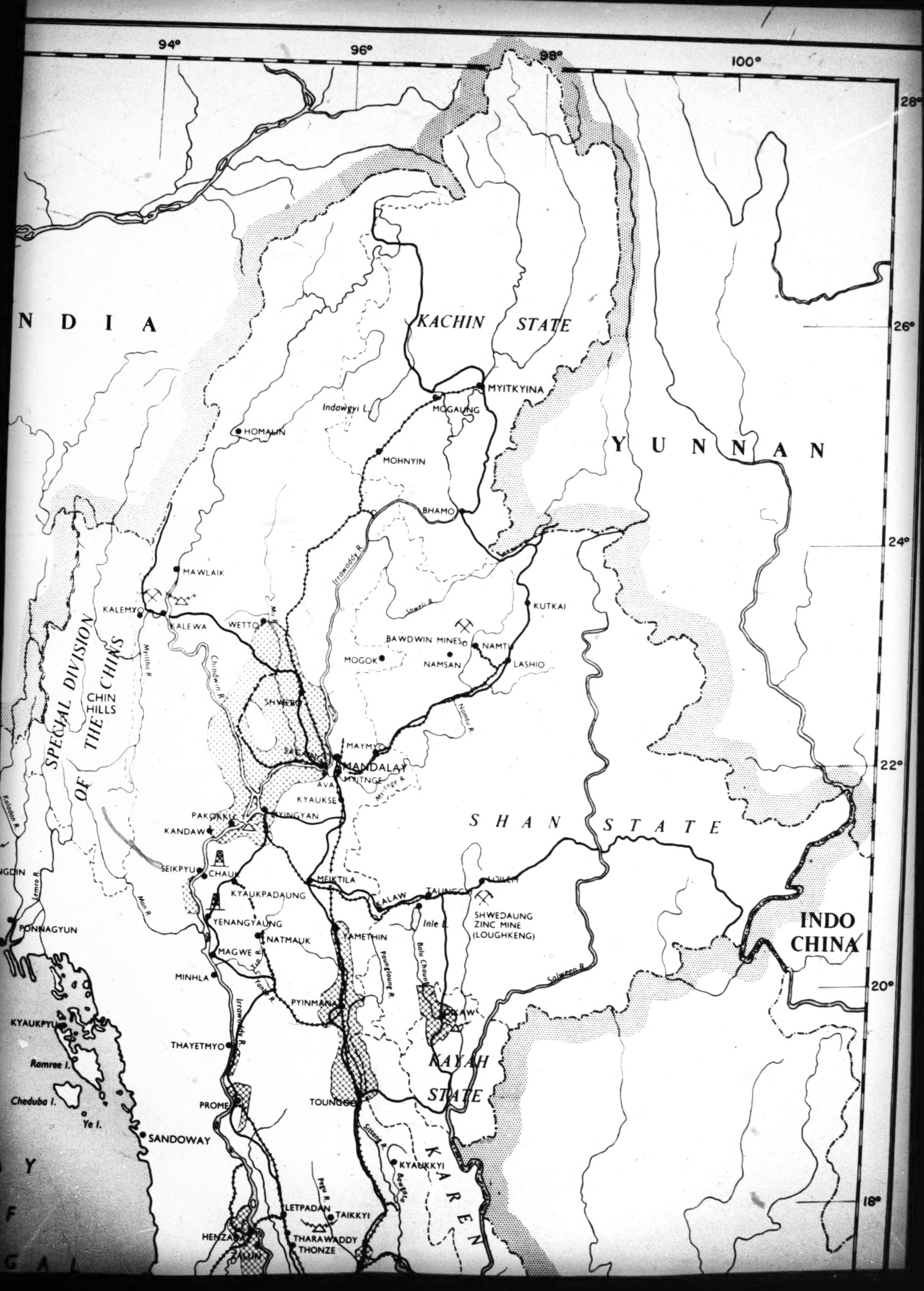
LETPADAN
TAIKKYI
THARAWADDY
THONZE
HENZADA
Mon R.
Kaladan R.
Lemro R.
Mayu R.
BUTHIDAUNG
SAINGDIN
PONNAGYUN
AKYAB
KYAUKPYU
Ramree I.
Cheduba I.
Ye I.
SANDOWAY


94°
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28°
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NDIA
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MOGAUNG
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HOMALIN
MOHNYIN
BHAMO
MAWLAIK
KALEMYO
KALEWA
WETTO
Mu R.
Irrawaddy R.
Shweli R.
KUTKAI
BAWDWIN MINES
NAMTU
NAMSAN
LASHIO
MOGOK
SPECIAL DIVISION OF THE CHINS
CHIN HILLS
Myittha R.
Chindwin R.
SHWEBO
SAGAING
MAYMYO
MANDALAY
MYITNGE
Myitnge R.
Namtu R.
AVA
KYAUKSE
PAKOKKU
MYINGYAN
KANDAW
SHAN STATE
Kaladan R.
SEIKPYU
CHAUK
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TAUNGGYI
LOILEM
NGDIN
Lemro R.
KYAUKPADAUNG
SHWEDAUNG ZINC MINE (LOUGHKENG)
INDO CHINA
PONNAGYUN
YENANGYAUNG
NATMAUK
YAMETHIN
Inle L.
Balu Chaung
Paunglaung R.
Mon R.
MAGWE
MINHLA
Yin R.
Yanle R.
PYINMANA
LOIKAW
Salween R.
KYAUKPYU
THAYETMYO
KAYAH STATE
Ramree I.
Cheduba I.
PROME
TOUNGOO
Ye I.
SANDOWAY
Sittang R.
KYAUKKYI
Bawgata
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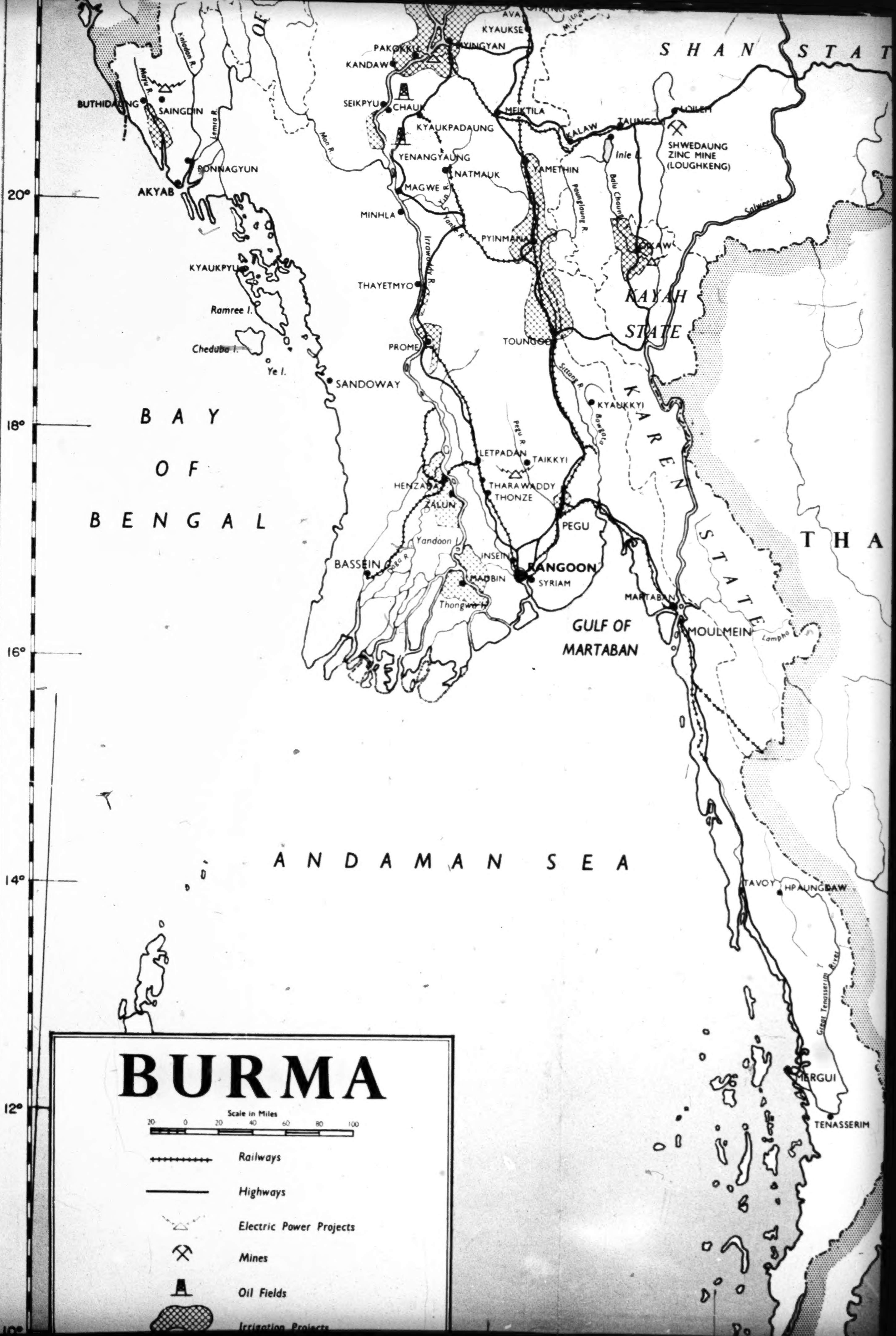
BURMA
Scale in Miles
20 0 20 40 60 80 100
Railways
Highways
Electric Power Projects
Mines
Oil Fields
Irrigation Projects
SHAN STAT
KAYAH STATE
KAREN STATE
THA
BAY OF BENGAL
ANDAMAN SEA
GULF OF MARTABAN
KYAUKSE
MYINGYAN
PAKOKKU
KANDAW
SEIKPYU
CHAUK
KYAUKPADAUNG
YENANGYAUNG
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RANGOON
SYRIAM
MAUBIN
Thongwa R.
PEGU
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MOULMEIN
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TAVOY
HPAUNGDAW
Great Tenasserim River
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TENASSERIM
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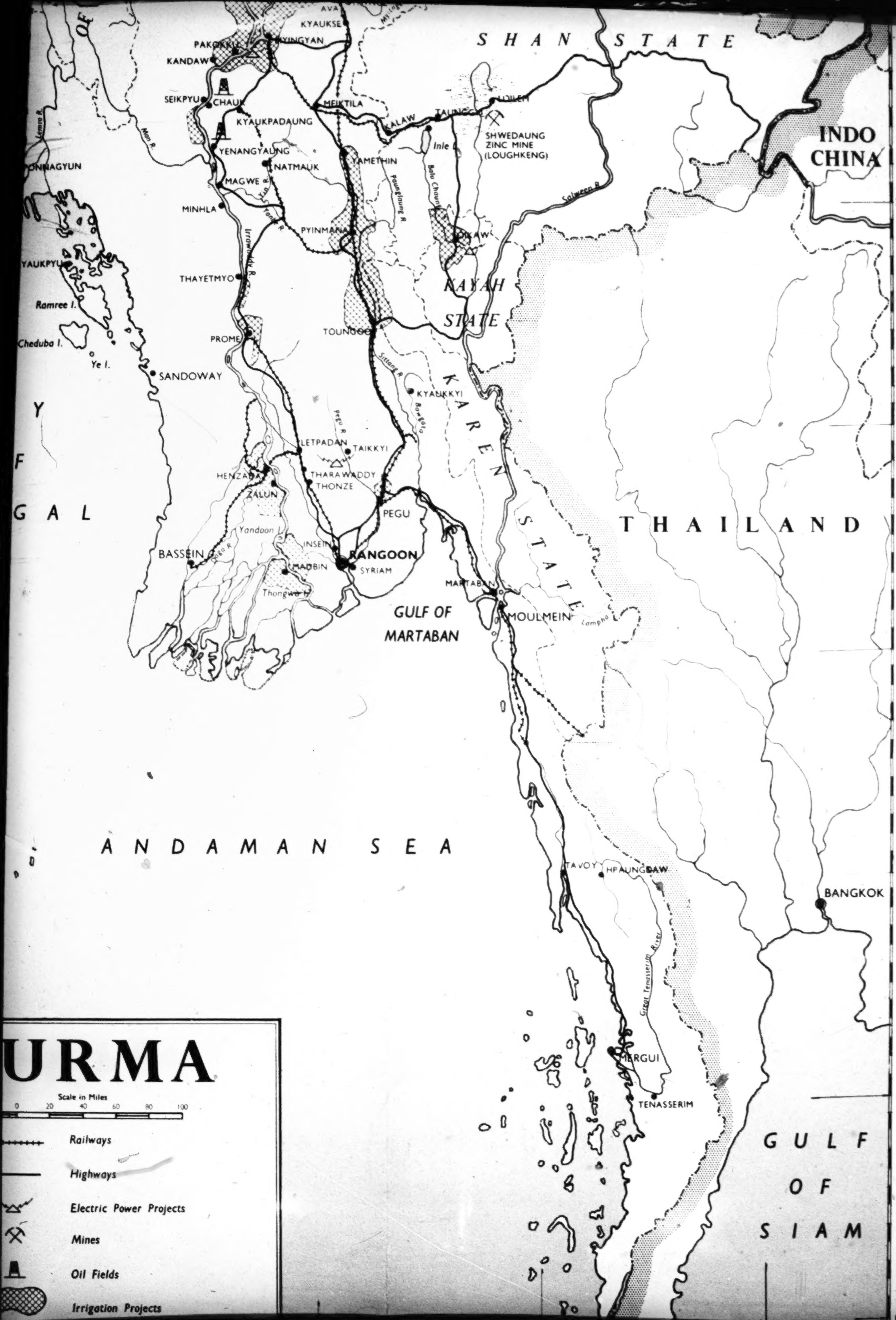
URMA
Scale in Miles
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Mines
Oil Fields
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Daga R.
INSEIN
RANGOON
SYRIAM
MAUBIN
Thongwa
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MOULMEIN
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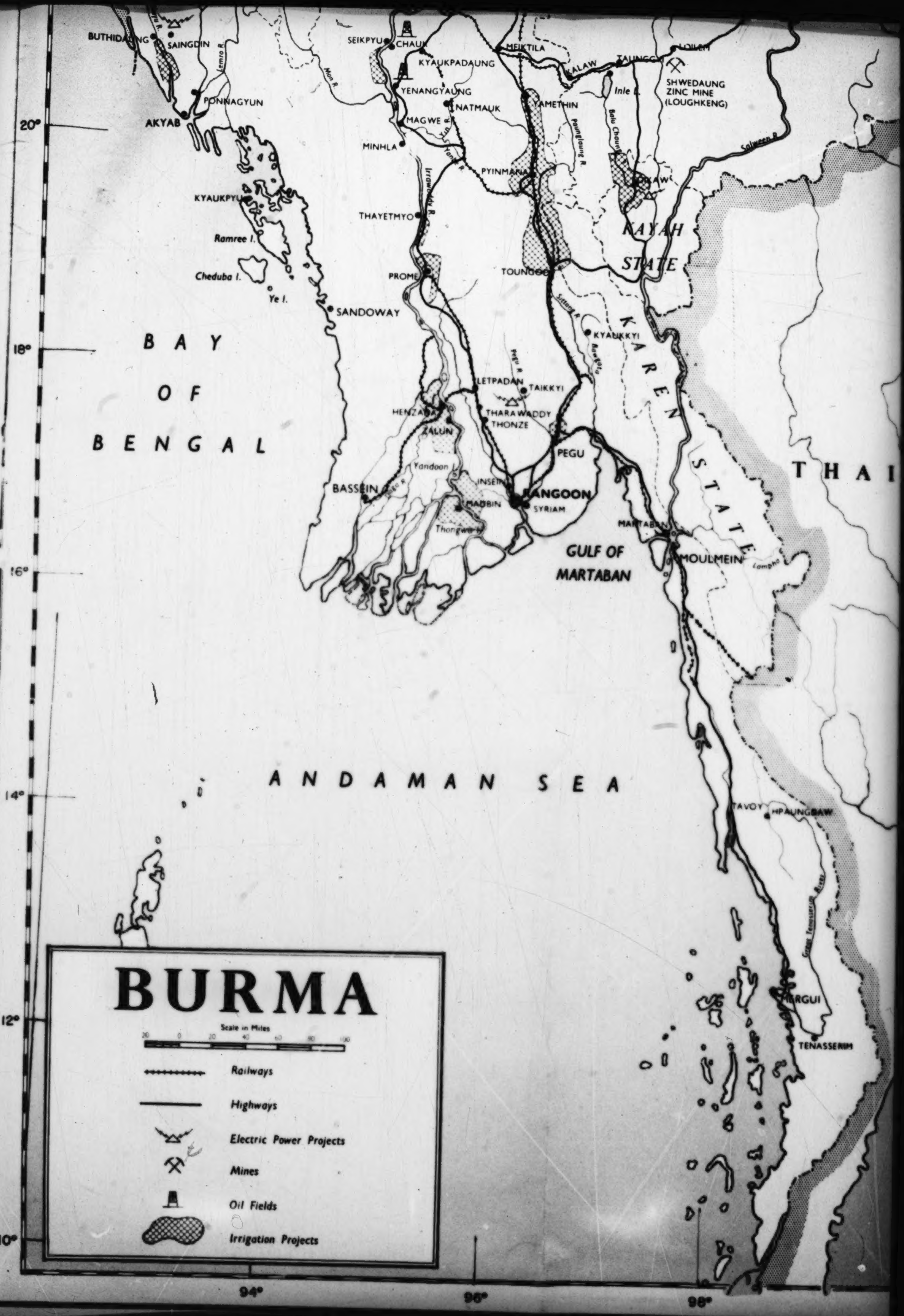
HPAUNGDAW
BANGKOK
Great Tenasserim River
MERGUI
TENASSERIM
Mon R.
Lemro R.
MINNAGYUN


BURMA
Scale in Miles
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Railways
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BUTHIDAUNG
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MARTABAN
MOULMEIN
Lampho
GULF OF MARTABAN
BAY OF BENGAL
ANDAMAN SEA
TAVOY
HPAUNGDAW
Great Tenasserim River
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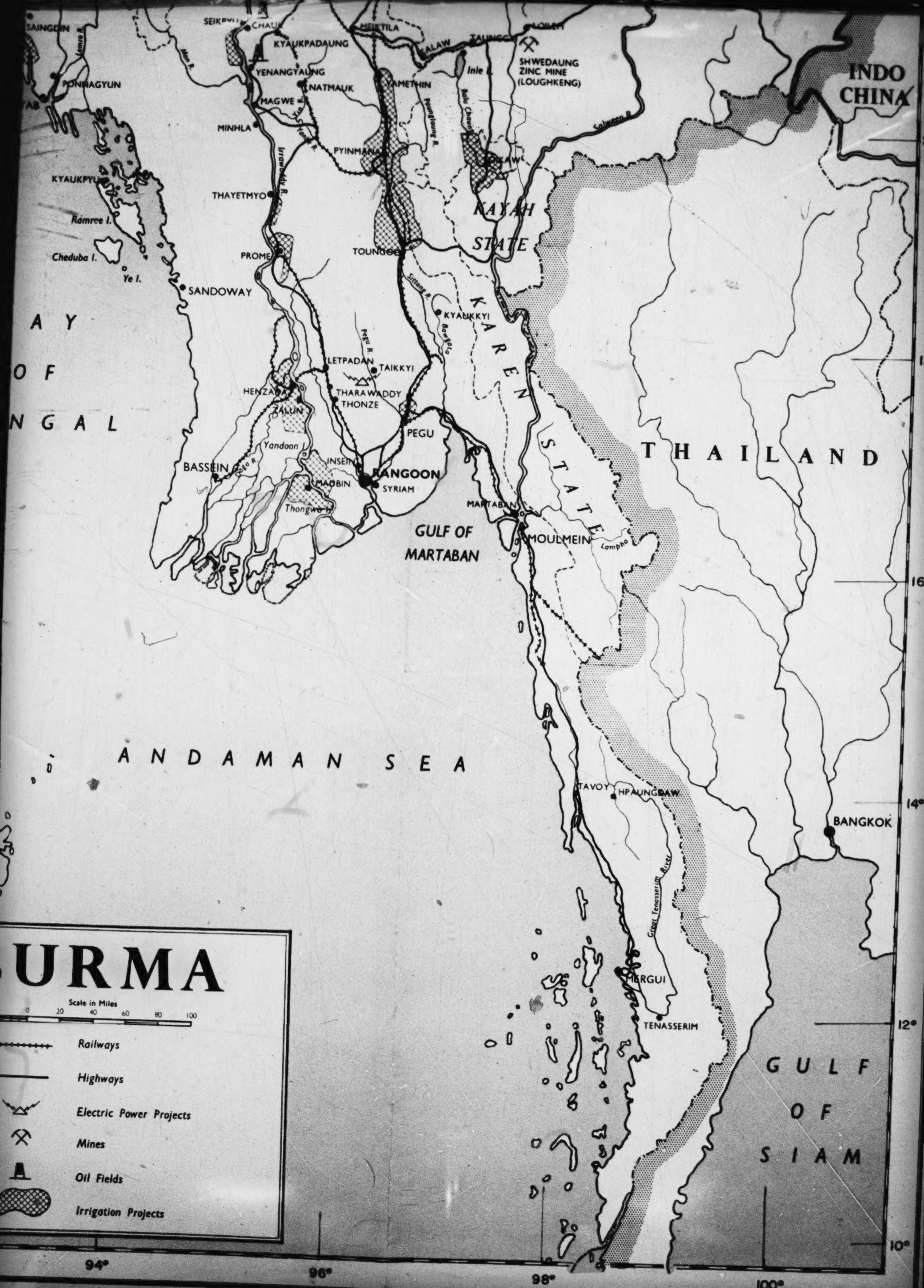
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